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Ghana Agricultural Development and Value Chain Enhancement Project (ADVANCE)

A USAID FEED THE FUTURE INITIATIVE

Fourth Semi-Annual Report
October 1, 2012 – March 31, 2013

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LIST OF ACRONYMS

ACDEP	Association of Churches Development Projects
ADB	Agricultural Development Bank
ADVANCE	Ghana Agricultural Development and Value Chain Enhancement
AEA	Agricultural Extension Agent
AGRA	Alliance for a Green Revolution in Africa
CRI	Crops Research Institutes
DCA	Development Credit Authority
EPA	Environmental Protection Agency
EU	European Union
FASDEP	Food and Agriculture Sector Development Policy
FBO	Farmer Based Organization
FDB	Food and Drugs Board
FIs	Financial Institutions
FtF	Farmer-to-Farmer
FTF	Feed the Future
GAIDA	Ghana Agricultural Input Dealers Association
GAP	Good Agricultural Practice
GFSR	Global Food Security Response
GGC	Ghana Grains Council
GIS	Geographic Information system
GPS	Global positioning system
GRIB	Ghana Rice Inter-professional Body
GSSP	Ghana Strategic Support Program
GTZ	German Technical Cooperation
ICT	Information and Communications Technology
IEHA	Initiative to End Hunger in Africa
IFAD	International Fund for Agriculture Development
IFDC	International Fertilizer Development Corporation
IFPRI	International Food Policy research Institute
IITA	International Institute of Tropical Agriculture
LWA	Leader with Associate
M&E	Monitoring and Evaluation
METSS	Monitoring and Evaluation Technical Support Services
MCC	Millennium Challenge Corporation
METASIP	Medium Term Agriculture Sector Investment Plan
MFI	Micro Finance Institution
MiDA	Millennium Investment Development Authority
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MOU	Memorandum of Understanding
MSME	Medium, Small and Micro Enterprise
NADMO	National Disaster Management Organization

NBFI	Non-Banking Financial Institution
NF	Nucleus Farmer
NGO	Nongovernmental Organization
NRGP	Northern Rural Growth Program
OISL	Opportunity International Savings and Loans
P4P	Purchase for Progress
PMP	Performance Monitoring Plan
PPRSD	Plant Protection and Regulatory Service Division
RAFIP	Rural Agriculture Finance Program
SADA	Savannah Accelerated Development Authority
SARI	Savannah Agricultural Research Institute
SME	Small and Medium Scale Enterprise
SMS	Short Message Service
SRI	System of Rice Intensification
STTA	Short-Term Technical Assistance
ToT	Training of Trainers
USAID	United States Agency for International Development
USAID-EG	United States Agency for Development – Economic Growth
USDA	United States Department for Agriculture
VCA	Value Chain Financing
VCTF	Venture Capital Trust Fund
WFP	World Food Program

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EXECUTIVE SUMMARY

This report covers the period 1st October 2012 to 31st March 2013. ADVANCE is aligned to the Feed the Future (FTF) program objectives of the US government with an overall goal of sustainably reducing poverty and hunger. ADVANCE contributes specifically to Strategic Objectives Three (SO3): improved nutritional status, especially of women and children; and Four (SO4): inclusive agriculture sector growth. The project tracks four key Intermediate Results (IRs) as follows:

- IR 1: Improved Agricultural Productivity
- IR 2: Expanding Markets and Trade
- IR 3: Increased Investment in Agriculture and Nutrition - Related Activities
- IR-5: Increased Resilience of Vulnerable Communities and Households

ADVANCE uses a long-term sustainable approach by working through commercial actors as conduits for reaching large numbers of smallholders, ensuring that improved practices remain in the market system following the end of the project. Results achieved during this six-month reporting period (October 1st 2012 to March 31st, 2013) are summarized below:

Improved Agricultural Productivity

During the reporting period, the project worked with 22,214 mostly smallholder producers of maize, rice and soybean all of whom worked with the project in the previous year. These smallholder producers are linked to 125 nucleus farmers and 53 aggregators. Approximately 37% (8,290) of the smallholders are affiliated to 249 Farmer Based Organizations (FBOs).

The project trained 19,395 beneficiaries to acquire new skills and knowledge in production technologies, management practices and numeracy skills that will enable them to operate in a more business-like manner. Forty-five per cent of the beneficiaries trained were women. At least 6,260 of those trained have already applied some of the knowledge acquired during the reporting period.

Gross margins for all three commodities exceeded the targets set for the period. Gross margins for maize, rice and soybean were US\$498/ha; US\$598/ha and US\$536/ha. The high gross margins can be partly attributed to higher yields in the last season: yields for maize, rice and soybean were 2.2Mt/Ha; 2.6Mt/Ha and 1.2/Ha respectively.

Expanding Markets and Trade

During the reporting period, an incremental volume of 6,136.50MT of soybean was purchased from smallholder producers with a total value US\$ 3,130,650.28. There are no sales results yet for maize and rice, as most of the harvests have not yet been sold. During the reporting period, 169 (representing 130% of the PY 2013 target) value chain actors accessed services that improved their businesses, while loans worth US\$538,964 (67% of the PY2013) was disbursed from financial institutions to beneficiaries. The project also supported 533 MSMEs (including 75 buyer aggregators, 31 processors, 58 input firms, 323 mechanized service providers, 27 financial institutions and 19 radio stations) to improve their business services over achieving the target set for the year.

For Public Private Partnerships (PPP)

The project, in partnership with the Centre for Remote Sensing and Geographic Information Systems (CERGIS) launched an online agricultural GIS system that will make data collected by the project available to the general public and businesses. The address for the website is www.gis4ghagric.net.

Increased Resilience of Vulnerable communities and households

During the reporting period, the project reached out and engaged 13,381 rural households of which 11,245 (84%) had participated in the previous year (PY 2012). Out of the rural households, 2,557 are classified as vulnerable who generally live in communities that are prone to drought, flooding, violent conflict and bushfires.

Cross cutting programs

Technical delivery of project activities is supported by the volunteer, gender, environment and grant programs:

Volunteer program: During the reporting period, the final volunteer assignments for the overall 4-year program were completed. Between October 2012 and March 2013, the project mobilized 14 volunteers who completed 18 assignments. The volunteers provided 341 days of technical assistance with local host organizations; working directly with over 1,200 beneficiaries (47% women). Volunteer assignments focused on four main topics: Business and Enterprise Development, Financial Services, Organizational Development and Farm Management, and Technology Transfer

Gender: ADVANCE has always made a conscious effort to reach as many women as possible with appreciable success. We ensure that women beneficiaries have equal access to grants, receive literacy and numeracy training, and participate in nutritional education. During the year, 8,653 (39%) of all direct project beneficiaries were women. Women featured prominently in FBOs accounting for 42% of the membership receiving project assistance, and 46% of beneficiaries accessing business development services. Also, women made up 52% of beneficiaries trained in Farming as a Business (FaaB) and other business skills.

Environment: The project addressed four thematic environmental management areas in this reporting period: (i) improving agrochemical management; (ii) researching into soil and water management technologies; (iii) improving smallholder adaptation to climate change and (iv) general compliance with title 22 of the code of federal regulations section 216(22CFR216).

Project management also kept track of all indicators for environmental management, monitored the amended Environmental Mitigation and Monitoring Plan for warehouse construction and the new conditions for the negative determination of the ADVANCE pesticide Evaluation Report and Safe Use Action Plan. Details of all these are presented in the environment section of this report.

Grants: In the reporting period, 15 new grants were awarded to nucleus farmers and FBOs. This brings the total value of signed grant agreements to \$2,728,244, of which \$2,581,869 has been disbursed. These grants have directly benefited 2,908 smallholder producers, nucleus farmers, input dealers, radio stations and aggregators, and have reached 130,752 people indirectly through family ties and business relationships.

Monitoring and Evaluation

Management continued to improve the M&E system by reviewing the data collection, storage and retrieval as well as quality assurance standards. The ADVANCE Management Information Systems database captures data on all FTF indicators with their respective disaggregation.

An external Data Verification Exercise was conducted by the Monitoring and Evaluation Technical Support Services (METSS), which focused on the USAID Economic Growth indicators reported in the PY 2012 annual. METSS is preparing their report on the verification exercise and any recommendations will be implemented.

1 INTRODUCTION

USAID awarded the ADVANCE project to ACDI/VOCA in July 2009 through the Farmer-to-Farmer Leader with Associates Award under the Associate Cooperative Agreement No. 641-A-00-09-00026-00. The project is implemented by ACDI/VOCA and four partners: two international organizations (TechnoServe and Winrock International) and two local organizations (ACDEP and PAB Consult). ADVANCE contributes to the intermediate results of USAID's FTF Strategic Objective 3 (Improved nutritional status, especially of women and children) and Strategic Objective 4 (Inclusive agriculture sector growth).

Presented in this report is progress made during the period of October 1st 2012 through March 31st 2013. The report summarizes the broad results and achievements (Section 3) for the period and details how they feed into specific intermediate results of USAID's Feed The Future (FTF) Strategic Objectives three (3) and four (4). The report also presents the progress made with each commodity value chain (Section 4), including supporting technical programs for financial services, inputs/equipment and outreach, all leading to enhanced competitiveness of the three commodity value chains.

Progress made under the volunteer program is presented in Section 5 while efforts related to the grant, environment and gender programs are presented in Section 6. Monitoring and evaluation of project activities are presented in section seven (7).

2 ADVANCE MANAGEMENT AND COLLABORATION WITH OTHER PROGRAMS

2.1 OFFICE STRUCTURE AND STAFFING

ADVANCE continues to operate four field offices in four regions, covering 39 districts (see Annex 1 for details), and fields 54 staff working on technical delivery and 39 staff performing support and logistics functions (see Annex 2 for details). The Accra office provides financial, administrative, communications, logistical, grants, volunteer and program management support to the field teams. The Chief of Party, based in the Accra office, remains the primary point of contact for communication and interaction with USAID/Ghana. The overall project organogram is attached in Annex 3.

2.2 COLLABORATION WITH MOFA

ADVANCE continues to engage the Ministry of Food and Agriculture (MoFA) at the national, regional, and most actively, at the district levels, and has made efforts to ensure that project activities are in line with the objectives set out in the Food and Agriculture Sector Development Policy II (FASDEP II). At the national level ADVANCE project staff actively participate in the agricultural sector working group (ASWG), and continue to contribute to the CAADP working groups.

At the regional and district levels, project staff have consistently interacted and engaged with MoFA Directors on project activities to promote collaboration and avoid duplication of efforts. As the cropping season draws close, ADVANCE will continue to work closely with MoFA officers and agents in target districts to train farmers in good agricultural practices (GAPs) and post-harvest handling, and to set up and maintain demonstration sites. ADVANCE project management considers this collaboration with MoFA critical to the sustainability of project activities and will continue this level of engagement through the rest of the project.

2.3 LINKAGE TO OTHER PROGRAMS

As a policy, ADVANCE makes deliberate efforts to link activities with other projects and programs operating in the same geographic and/or commodity areas. The project has worked with both governmental and non-governmental organizations including the Northern Rural Growth Project (NRGP) managed by MOFA and funded by IFAD, Savannah Agricultural Research Institute (SARI), International Institute for Tropical Agriculture (IITA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the Ghana Agricultural Insurance Programme (GAIP), the Rural and Agricultural Finance Programme (RaFIP) funded by International Fund for Agricultural Development (IFAD), International Fertilizer Development Corporation (IFDC), Centre for Remote Sensing and Geographic Information Systems (CERGIS), Ghana Rice Inter-professional Body (GRIB), and the Arzakinmu Project funded by Alliance for a Green revolution in Africa (AGRA).

Table 2-1 Linkages and Collaboration with Various Projects and Programs

No.	Name of Public/Private Entity	Areas of Collaboration
1	IFDC/AGRA funded	Collaborating and providing technical support to 5 ABCs in the Northern Region. Opportunities have been offered to irrigation projects to apply for small equipment grant (SEG). Both are also coordinating and providing technical support to two irrigation schemes. Collaborated on the 2 nd Pre-Harvest Forum in October 2012 and 2 nd Pre-Season Forum in March 2013.
2	Ghana Agricultural Insurance Program (GAIP); GIZ funded	Collaborating on drought index insurance that GAIP/GIZ is piloting in Northern Ghana including training ADVANCE staff/actors, procuring and installing five automated weather stations and providing GIS/GPS data. 25 policies sold in 2012 for 179 farmers, with 253 acres insured. Coming season, ADVANCE is facilitating GAIP to hold outreach and training sessions with varied audiences including 500 actors at the Pre-Season Forum.
3	Armajaro Cotton Ghana Ltd	Leveraging resources to work with maize farmers in the Northern Region to provide farmers with improved seeds and fertilizer as well as training on good agricultural practices. 1,448 outgrowers received support. 388 OGs received Etubi seed. The rest used home saved seed. Issues of late distribution of inputs, Farmer cotton yields poor. Repayment an issue. Model of 4 AEAs giving training (supported by Chemico) was good in principle but because of late inputs, it didn't work. Armajaro approach of working with only best farmers was questionable.
4	Ghana Rice Inter-Professional Body (GRIB)	Framework for cooperation with GRIB developed to leverage resources to develop the rice industry value chains in Ghana. Organize Sustainable Rice Intensification (SRI) training in communities with ADVANCE and GRIB.
5	Rural & Agricultural Finance Program (RaFiP); IFAD funded	ADVANCE carried out value chain studies on rice, maize and soybean and shares with RaFiP. Collaborating with ARB Bank and the Rural Community Banks to ensure quality training and availability of training materials. Including upcoming training on microfinance management for 3-4 clients on ADVANCE.
6	International Institute of Tropical Agriculture (IITA) – N2 Africa Project (SARI)	Collaborating to build capacity of smallholder farmers in Northern Ghana to improve soybean production through the use of inoculants. Carried out 26 demonstrations using inoculants, Yaralegume fertilizer in 2012.
7	Jaksally Organization, Damongo, N/R	Collaborating to GPS map farmers' locations and profile farmers. Linking Village Savings and Loan schemes groups to other financial opportunities. Progress to cooperative status of all the 20 (of 32) VSAL groups.
8	ASI-Arzakinmu Project	Collaborated in the construction of 17 warehouses of 50 metric tons capacity with 5 FBOs and 2 aggregators and 11 nucleus farmers (5 x N/R, 8 x UWR, 4 x UER), and post-harvest handling training. Project now ended.
9	Centre for Remote Sensing and Geographic Information Services (CERGIS)	A framework of cooperation to develop Ghana's first geo-portal system for agriculture. A framework of cooperation to develop Ghana's first geo-portal system for agriculture. Launch of the CERGIS will occur in April 2013.
10	Ecobank	Partnership to collaborate on the USAID DCA agricultural loan guarantee initiative. Partnership to collaborate on the USAID DCA agricultural loan guarantee initiative. Ecobank has received at least six loan applications totaling Ghc 386,000. Disbursed amounts are Ghc 31,000.
11	Sinapi Aba Trust	Partnership to collaborate on the USAID DCA agricultural loan guarantee initiative. An additional twelve producers and processors have met with Ecobank Sunyani branch to learn of the loan facility available to them, and eight have already opened bank accounts with Ecobank. Sinapi Aba Trust has received four applications in total worth Ghc 115,000.
12	WFP/P4P program	Collaborate with P4P with ten rice FBOs for capacity building, improved rice quality and access to markets. 10 parboiling vessels delivered. Training from Research Institute took place in February 2012.

13	University of Development Studies –Wa	Provide work-study opportunities for 30 UDS-Wa students in the ADVANCE Wa office, including practical community attachment with input dealers and nucleus farmers from May to August 2013.
14.	MOU with IITA/USAID Rising Africa program	Collaborative efforts on conservation/extensive farming techniques sharing demonstration sites for the 2013 farm season.
15	UDS-Tamale campus	Provide work-study opportunities for UDS-Tamale students in the ADVANCE Tamale and Bolga offices.
14.	MEDA	Collaborate on soybean production and marketing in the value chain in the districts of UWR and N/R. to improve service delivery, product aggregation, and marketing for soybean for smallholder farmers. Support end market linkages

3 SUMMARY OF RESULTS

The ADVANCE project contributes to the overall Feed the Future (FTF) goal of sustainably reducing poverty and hunger, and tracks a total of sixteen FTF indicators and four additional ACDI/VOCA-specific indicators. The project contributes to two main FTF objectives: Strategic Objective 4 (SO4) “**Inclusive agriculture sector growth**”; and Strategic Objective 3 (SO3) “**Improved nutritional status, especially of women and children**”.

Results contributing to achieving FTF’s SO.3 and SO.4 are tracked through the following Intermediate Results (IRs):

- IR 1: Improved Agricultural Productivity
- IR 2: Expanding Markets and Trade
- IR 3: Increased Investment in Agriculture and Nutrition - Related Activities
- IR-5: Increased Resilience of Vulnerable communities and households

Details of the strategic objectives, results, intermediate results and indicators tracked by the project are presented in the results framework.

ADVANCE’S IMPLEMENTATION STRATEGY

ADVANCE adopts an implemetation model in which we strengthen nuclues farmers/aggregators to provide agricultral services (tractor services, improved seed, fertiliser, post harvest services like shelling, and credit) to smallholder farmers (outgrowers) while also acting as a link to larger buyers and processors creating marketing channels for the smallholders.

The project selects these nuclues farmers and aggregators carefully by assessing their willingness to invest and provide the services mentioned above, and then builds their capacity through training, grants, and technical advice to enable them manage these outgrower schemes effectively and efficiently.

This approach ensures sustainability in several ways: (i) the project does not provide any services directly, and thus does not leave a services gap post-project; (ii) the relationships between all the actors are purely businesslike and will continue as long as it remains profitable. Project management continues to strengthen the robustness of the model by constantly revieweing it and providing additional capacity to the nucleus farmers to better manage their outgrower schemes.

Using the strategy described, the project is currently working with 22,214 producers of maize, rice and soybean (Table 3.1) all of them having worked the project in the previous year.

Figure 3-1: ADVANCE Results Framework

Goal	Sustainably reduce poverty and hunger			
Indicators	<ul style="list-style-type: none"> % of people living on less than \$1.25/day in target regions 			
1st Level Objectives	Inclusive agriculture sector growth		Improved nutritional status especially of women and children	
Indicators	<ul style="list-style-type: none"> Per capita expenditures (as a proxy for income) of USG targeted beneficiaries 			
2nd Level Objectives	Improved agriculture productivity	Expanding markets and trade I	Increased investment in agriculture and nutrition activities	Increased resilience of vulnerable communities and households/
Indicators	<ul style="list-style-type: none"> Gross margins per hectare of land of selected product 	<ul style="list-style-type: none"> Value of incremental sales (collected at farm level) attributed to FTF implementation 	<ul style="list-style-type: none"> Value of new private sector investment in agriculture sector or value chain 	<ul style="list-style-type: none"> # of rural households benefiting directly from USG interventions # of vulnerable households benefiting directly from USG interventions
3rd Level Objectives	Enhanced human and institutional capacity development for increased sustainable agricultural sector productivity	Enhanced technology development, dissemination management and innovation	Improved access to business development and sound and affordable financial and risk management services	
Indicators	<ul style="list-style-type: none"> # of farmers and others who have applied new technologies or management practices as a result of USG assistance # of individuals who have received USG supported short term agricultural sector productivity or food security training # of private enterprises (for profit), POs, WUAs, women's groups, trade and business associations, and CBOs receiving USG assistance # of members of POs and community based organizations receiving USG assistance # of private enterprises, POs, WUAs, trade & business association, and CBOs that applied new technologies or management practices as a result of USG assistance Crop yield # of beneficiaries trained in Farming as a Business or other business skills 	<ul style="list-style-type: none"> # of hectares under improved technologies or management practices as a result of USG assistance # of new technologies or management practices researched, field tested, or made available # of demonstration sites created 	<ul style="list-style-type: none"> # of public-private partnerships formed as a result of FTF assistance Value of Agricultural and Rural Loans # of MSMEs receiving USG assistance to access bank loans Number of MSMEs receiving business development services from USG assisted sources # of beneficiaries accessing business development services 	

Out of the 22,214 mostly smallholder farmers and outgrowers for 125 nucleus farmers/aggregators and 8,290 (37%) are smallholder farmers affiliated to 249 Farmer Based Organizations (FBOs). The nucleus farmers, along with aggregators, outgrowers and FBOs, are linked to 65 buyers and 31 processors for a

total of 67 different supply chain operations. The smallholders are also linked to 58 agricultural input firms, 255 mechanized service providers, 28 financial institutions and 17 radio stations. Progress under each intermediate result is presented in the rest of this section of the report.

Table 3-1 Number of producers reached by crop

Crop	PY 2013 Semi Annual Status
Maize	12,906
Rice	4,086
Soya	5,222
Total number of producers	22,214

3.1 IMPROVED AGRICULTURAL PRODUCTIVITY

Progress towards achieving this strategic objective is presented in **Table 3-3**. The results contribute to FTF:

- (i) Sub-IR 1.1: Enhanced human and institutional capacity development for increased sustainable agricultural sector productivity, and
- (ii) Sub-IR 1.2: Enhanced technology development, dissemination management and innovation.

Yields and Gross Margins

The Gross Margins (GM) targets for maize, rice and soybean were exceeded. The higher gross margins recorded for all the commodities can be attributed to a significant increase in yield as a result of a successful collaborative effort in 2012 between the weather and an aggressive ADVANCE program intervention. The GMs for maize, rice and soybean were US\$498/ha; US\$598/ha and US\$536/ha respectively; and the recorded yields for maize, rice and soybean were 2.2Mt/Ha; 2.6Mt/Ha and 1.2/Ha respectively. These improvements in yield and gross margins are an indication that project beneficiaries are accessing inputs more readily, engaging in improved production practices, and their linkages to relatively reliable markets is having a positive impact.

Adoption of New Technologies

During the reporting period, 6,267 smallholders (241% of target) adopted new technologies and/or management practices made available by the project. Notably, most rice farmers in irrigated fields adopted the Togo Marshal and Jasmine 85 varieties. These are the varieties in high demand in southern Ghana markets and compete directly with imported rice. In addition, the total area under improved technologies was 8,893ha over the target of 6,980 ha (over target by 27%). Also, linkages to input dealers and the establishment of demonstration sites have contributed greatly to the adoption of new technology by project beneficiaries.

Producer Organizations and Food Security Enterprises Receiving FTF Assistance

A total of 263 (175% of the PY 2013 target of 150) producer organizations and food security enterprises with 5,525 members, benefited directly from project activities during the reporting

period. The exceeded target can be attributed to project support to the nucleus farmers in developing more efficient ways of managing their outgrower schemes, and to the fact that many outgrowers organized themselves into FBOs.

Capacity Building of Beneficiaries

During the reporting period, 19,395 beneficiaries (almost 600% of the PY 2013 target) were trained to acquire new skills and knowledge in production technologies as well as management practices that enable them to operate in a more business-like manner. Forty-four per cent (8,653) of beneficiaries trained were women. Ninety eight per cent of all trainees (19,000) were producers, 1.83% were from agricultural MSMEs, and less than one per cent from MoFA and other government agencies. Also, 11,969 (61.71%) of the beneficiaries were trained on numeracy, “Farming as a Business (FaaB)” and FBO strengthening. Details of the training are presented in Table 3-2

]

Table 3-2: Types of training and number of beneficiaries trained during the period

Type of Training	Number of Training Beneficiaries		Total
	Male	Female	
Farming as a Business (FaaB)	5034	3690	8,724
Numeracy Training	43	2,059	2,102
FBO Strengthening	638	505	1,143
Agricultural Productivity and Business Development Training	4871	2399	7270
No Disaggregation	156		156
Total	10,586	8,653	19,395

Technology Demonstration

A successful strategy for making technology available to smallholders is the use of demonstration sites. For the 2013 crop season, the establishment of demonstration sites is at the planning stage, except for four rice demonstration sites that have already been established under irrigation at ICOUR. The total number of demonstration sites that will be established will be included in the October 2013 annual report.

Table 3-3 Results of Sub IRs 1.1 and 1.2

Indicator		PY 2013 Results (semi- annual)	PY 2013 Target	% PY 2013 Target achieved
4.5(4) Gross margins per hectare (FTF)	Maize	498.29	350.00	142.37%
	Rice	597.52	400.00	149.38%
	Soya	535.95	200.00	267.98%
4.5.2(5) # of farmers and others who have applied new technologies or management practices as a result of USG assistance. (FTF)		6,267	2,600	241.04%
4.5.2.(2) # of hectares under improved technologies or management practices as a result of USG assistance (FTF)		8,892	6,980	127.39%
4.5.2(11) Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations(CBOs) receiving UCG assistance		263	150	175.33%
4.5.2.(27) Number of members of producer organizations and community based organizations receiving USG assistance		5,525	3000	184.17%
4.5.2.(7) Number of individuals who have received USG supported short term agricultural sector productivity or food security training		19,395	3,250	596.77%
4.5.2(42) # of private enterprises, producer organizations, water user associations, trade and businesses associations and CBOs that applied new technology or management practices as a result of USG assistance.(FTF)		78	50	156.00%
1. Crop yield (project target)	Maize	2.15	3.5	61.43%
	Rice	2.60	3.0	86.67%
	Soya	1.18	2.0	59.00%
2 # of beneficiaries trained in Farming as a Business (FaaB) or other business skills)		9,867	8,500	116.08%
3. # of demonstration sites created.		4	142	2.82%

3.2 EXPANDING MARKETS AND TRADE

Results achieved contribute to FTF Sub IR 2.4: improved access to business development, sound and affordable financial and risk management. Output targets and achievements are presented in Table 3-4.

Value of Incremental Sales

During the reporting period, an incremental volume of 6,136.50MT of soybean was purchased from smallholder producers with a total value US\$ 3,130,650.28. However, there are no sales results yet for maize and rice, as most of the harvests have not been sold and project staff are tracking sale at the time of data collection for this report. This will be available for the Annual Report.

Table 3-4: Results of Sub IR2.4

Indicator		PY 2013 (semi-annual)Results	PY 2013 Target	% PY 2013 Target achieved
4.5.2.(23) Value of incremental sales (collected at farm level) attributed to FTF implementation.(FTF)	Maize	N/A ¹	US\$ 1,682,068	N/A
		N/A	16,960MT	N/A
	Rice	N/A	US\$ 1,164276	N/A
		N/A	3,084MT	N/A
	Soya	US\$ 3,130650	US\$ 3,818,520	82.9%
		6,136.00MT	10,793MT	56.85%
4.5.2.(29) Value of Agricultural and Rural Loans		538,964	800,000	67.37
4.5.2 (30) Number of MSMEs(including farmers) receiving USG assistance to access bank loans		169	50	338.00%
4.5.2 (37) Number of MSMEs (including farmers) receiving business development services from USG assisted sources		169	130	130.00%

MSMEs Receiving BDS and Assistance to Access Bank Loans

During the reporting period, 169 (representing 130% of the PY 2013 target) value chain actors accessed services that improved their businesses during the reporting period. Loans disbursed from financial institutions to beneficiaries were valued at US\$538,964 representing 67.37% of the PY2013 target of \$800,000. The financial institutions' focus of engagement during the reporting period was to increase their lending to the agricultural sector by creating strategic alliances with nucleus farmers, buyers/aggregators, processors and input firms.

¹ Data collection for this indicator is ongoing and not adequately available at this time. Full data will be available by end of June and will be in the October 2013 Annual Report.

Over 5,525 MSMEs, including farmers, were supported to acquire informal and formal credit facilities to improve their businesses. The credit facilities were either in cash or inputs. The project supported 533 MSMEs (including 75 buyer aggregators, 31 processors, 58 input firms, 323 mechanized service providers, 27 financial institutions and 19 radio stations) to improve their business services over achieving the target set for the year.

Mechanized service providers were taught record keeping and how to increase patronage of their services through linkages with value chain actors participating in the ADVANCE program. Input dealers were supported with training on input service provision and assistance in promotional events to increase outreach and their customer base. Radio stations were provided with technical assistance to improve the content of their agricultural programs, create linkages with sponsors and participate in stakeholder fora.

3.3 INCREASED INVESTMENT IN AGRICULTURE AND NUTRITION-RELATED ACTIVITIES

Intermediate result three (IR 3) of FTF tracks investments by individuals, micro, small and medium enterprises (MSMEs) and government agencies as a result of project activities and support. Progress towards achieving this IR is presented in Table 3-5.

Investment in New Technology

During the reporting period, actors invested a total of US\$535,813 in farm machinery and other agro inputs to support increased productivity and quality of produce. This amount represents 267.91% of the PY 2013 target and was achieved mainly as a result of the linkages created within the value chains, especially the grants program with 30% leverage from beneficiaries, which encouraged investments in post-harvest farm machinery.

Table 3-5: Results of IR3

Indicator	PY 2013 Semi-annual Results	PY 2013 Target	% PY 2013 Target Achieved
4.5.2 (38) Value of new private sector investment in the agriculture sector or food chain leveraged by FTF implementation.	535,813	200,000	267.91%
4.5.2.(12) Number of public-private partnerships formed as a result of FTF assistance	1	1	100%

Public-Private Partnership

The project partnered with the Centre for Remote Sensing and Geographic Information Systems (CERGIS) to develop and launch a sustainable online system of mapping agricultural commodities and partially commercializing the data. The objective is to make this data available to the general public and businesses. The website for this system is www.gis4ghagric.net

3.4 INCREASED RESILIENCE OF VULNERABLE COMMUNITIES AND HOUSEHOLDS

Progress towards achieving the FTF objective of improving nutritional status especially of women and children and sub IR 5 is presented in [Table 3-6](#). The project contributes to sub IR5 by working with rural and vulnerable households.

Table 3-6 Rural and Vulnerable HH Benefitting from FTF Assistance

Indicator	PY 2013 Semi-annual Result	PY 2013 Target	% PY 2013 Target achieved
4.5.2.(13) # of rural HH benefitting directly from USG interventions(FTF/EG)	13,318	16,711	79.69%
4.5.2.(14) # of vulnerable HH benefitting directly from USG interventions (FTF/EG)	2,557	2,500	102.28

During the reporting period, the project reached out to 13,381 rural households who benefited from one or more project interventions including training, grants, links to inputs and finance sources, and markets. The number of rural households benefiting directly from the project is 80% of the targeted 16,711 for PY 2013. A total of 11,245 (84%) rural households continued from PY 2012 while 2,136 (16%) HH joined in the current reporting year. [Table 3-7](#) shows the gendered household type of the rural households. The cumulative number of beneficiary rural households since project inception is 34,154.

Table 3-7 Gendered Household Type Reached by Project

Gendered HH Type	Number	Percentage
Adult Female no adult male(FNM)	420	3.14
Adult Male and Adult female (M&F)	3,083	23.04
Adult Male no Adult female(MNF)	9,878	73.82

Vulnerable Households

Out of the 13,381 rural HH that participated in project activities in the reporting period, 2,557 households are classified as vulnerable. They generally live in rural communities that are prone to drought, flooding, violent conflict and bush fires.

4 PROGRESS WITH COMMODITIES AND MARKET SUPPORT SERVICES

In this section, we report on specific activities and results of the three commodities as well as the support market services (outreach, financial services and inputs/equipment).

4.1 MAIZE VALUE CHAIN

The current reporting period coincided with the 2012 harvest and post-harvest periods, as well as planning for the 2013 production season. A total of 186 demonstration plots of maize were harvested and results were analyzed and shared with relevant stakeholders. Gross margin data was collected to determine farmers' productivity and profitability.

4.1.1 Improve Maize Productivity

High yielding maize varieties, both OPV and hybrid, from five different private and public sector sources were used in the ADVANCE-facilitated demonstrations in 2012. Seeds were grown solely to advertise their resilience in the environment or tested against commonly used farmer varieties to demonstrate their superiority. The highest (yields of more than 3mt/ha) performing maize varieties from the 186 demonstrations were Abontem, Pan 12, ProSeed Mamaba and Pan 53. These had 100%, 69%, 69% and 65% respectively of demonstration plots allotted to them yielding above 3.0 mt/ha. The drought-tolerant varieties (Etubi, Pan 53 and Pan 12) were the most outstanding during the usual mid-season drought. These observations have also been shared at various stakeholder meetings of input contributors.

For the 2013 production season, forty-six maize nucleus farmers have confirmed their participation while all 16 of the input dealers who invested in demonstrations in 2012 have expressed interest to continue this work. Two new companies, Wa GreenOK and GrowGreen, with organic products will also participate in the next round of activities.

Box 1: Maize at a Glance under ADVANCE

Total area cultivated (Ha)	16,778
Amount of seed produced (MT)	83.20
Total grain production (MT)	36,912
Average yield, (mt/ha)	2.20
Total number of farmers	12,906
Number of Aggregators	28.00
Number of Processors	7.00

Actor-Led Demonstrations

Four companies and twenty lead farmers contributed more than 1650mt of certified maize seed towards the 186 project demonstration plots set up in Northern Ghana. The companies included Wenco, Antika Enterprise, Ohumpong Enterprise, Heritage Seeds and one public sector organization, the Council for Scientific and Industrial Research (CSIR). At 36 farmer field days organized at the locations of these demos, seed dealers supported over 800 farmers in learning about the proper seeding rates and use of seed dressings to cultivate the innovative seed varieties they wished to sell.

As a result of their investment in the demonstration plots and participation in the farmer field days, Antika and Ohumpong reported a 3 to 6 fold increase respectively, a combined total of 15.9 MT, in sales of the Etubi and Obaatanpa varieties as compared to sales in 2012. Coverage of the events by radio stations and dissemination through listenership groups helped spread information on good agricultural practices further. These seed dealers have already committed their products for the 2013 demonstration.

4.1.2. Analysis of the 2012 Season Maize Demonstrations

In 2012, 186 actor-supported maize demonstrations were established by the project in collaboration with 15 inputs companies, 58 self-selected nucleus farmers and 2 FBOs in 73 communities. Each demonstration plot was at least one-acre large to enable a realistic comparison of innovations on offer by contributors. Participants' learning experiences and feedback has been shared at one central meeting with 68 participants, 59% of them being Aggregators/farmers, 21% Input dealers, 17% Resource people (including MoFA and SARI) and 3% Seed growers.

Four regional meetings have also been held to discuss the specific issues at each location and plans for similar demonstrations in 2013. The demonstrations served the purposes of transferring new knowledge and products from the private sector to farmers, building capacity of MoFA agricultural extension agents to learn of about new products for follow up with the farmers, and promote input sales of products. Farmers were generally impressed with the crop-specific Actyva and 23-10-5-2S fertilizer from Yara Mila and Chemico companies respectively. Farmers observed that the demonstrations plots with Actyva fertilizer treatment produced bigger and stronger stalks and were less susceptible to infestation by ear worms compared to the more commonly used NPK/Sulphan. More than 65% of the demonstration plots that were treated with these fertilizers had yields above 2.0mt/ha, and 48% of these recorded yields above 3mt/ha.

Contributors of Inputs to 2012 Demos on Maize

Certified Seed	Weedicide	Fertilizer	Seed Dresser
Wienco	Bentronics Production	Chemico	Dizengoff
Heritage Seed	CANDEL	Wienco	
Antika Company Ltd.	Chemico	Yara	
CSIR	Louis Dreyfus		
Ohumpong Farms	Jagula Enterprise, Navrongo		
	Makhteshim Agan		
	Glory Enterprise, Chuchuliga		

The technologies adopted most by farmers include proper application of weedicides and fertilizers, better harvesting and post-harvest handling of grain, especially the use of tarpaulins, shelling and bagging at moisture contents of 13% and below.

4.1.3. Encourage farmer-led seed production models

Five seed growers, Antika, Martin Ariku, Alhaji Mbilla, Sulley Agholisi and Chief Moses, were linked to sources of foundation seed during the current reporting period. These sources include AgriServe, the national agent for Pioneer Seed Company, Wienco and SARI. The seed growers are multiplying seed of innovative maize varieties including Etubi, Pan 12, Pan 53 under irrigation, for sale during the major planting season.

In anticipation of the increased demand for these varieties, six formal agreements were signed between a NF in the UER and outgrowers to assist in seed production under irrigation for the forth-coming planting season.

4.1.4 Enhance Post-Harvest and Warehouse Management

The project continues to gain momentum in enhancing post-harvest handling and warehouse management through its collaboration with the AGRA-funded Arzankinmu project, Armajaro Company, MOFA, and the GGC. End market buyers are requesting delivery of commodities in standard weights, introducing their own labels on bags for transparency and organizing smaller bags to speed up loading and off-loading along the transportation chain.

As part of the project's collaboration with the above mentioned organizations, the project trained 63 nucleus farmers, 49 farmer group leaders and 474 other individuals on the use of moisture meters, weighing scales, grades, standards and proper storage of maize at eight different training sessions across program areas. The introduction of labeled sacks to nucleus and other farmers for packaging have enabled traceability of sources of supply to the farm gates. Some companies like Premium Foods Ltd. report that this has resulted in higher quality and standardized maize being sold to the end markets.

More than 1,519.82 mt of maize valued at US\$385,374.9 was sold through the 18 eighty-mt community aggregation warehouses in the Northern Region, Upper East Region and Upper West Region. As of this report 560mt of maize were being held in the warehouses while farmers wait for prices to appreciate.

4.1.5 Strengthen the Maize Value-Chain

Twenty-six end-markets with an estimated processing/sale capacity of more than 240,000mt were supported to maintain their supply chain relationships through twenty-one nucleus farmers and nine aggregators during the reporting period. Buyer-seller relationships developed further between October 2012 and March 2013 with more than 400 participants attending two large forums; the Pre-Harvest in October and the Pre-Season in March, where discussions centered on price negotiations and contracts.

In addition, 367 maize farmers were assisted to use their harvests to complete and analyze their own farm budgets, gross margins and the profit or loss of their maize enterprise by project staff. Their gross margin analysis showed varying ranges, some recorded increases while others dropped compared to last year's crop. Labor costs remained the highest area of expenditure in the maize enterprises and took up to 70% of the cost of production. Labor costs are rising in the farming systems as more youth migrate into the growing small scale mining sector. Increases in fuel costs and fertilizers obtained outside the government subsidized system also affected gross margins. The profit and loss analysis was also used to help calculate the break-even prices for maize produced. This ranged between 400-550 Cedis/mt for more than 60% of the nucleus farmers reached. This gives an apparent competitiveness of maize on the international market for the period, though weather conditions in the high producing countries was the main reason behind the hike of the international market price of maize.

4.1.6 Strengthen buyer linkages to northern producers

Activities in support of continued relationships to end-markets based in Southern Ghana included sharing of information on location and price of available stocks and support to training and dialogue on required standards of identified end-markets. Seven end-markets, including Premium Foods, WFP, InterGrow, Yedent, Akate Farms, AgriCare and the SFMC, renewed contracts and agreements to continue to do business with farmers, and have also conducted meetings and community visits to consolidate their relationships.

Five new markets, K. Baah Enterprise, Kumasi Poultry Farmers, Obuasi Poultry farmers, Takoradi Forces Supply, and Agboghloshie market, were identified and linked to maize farmers in northern Ghana resulting in the sale of more than 518mt worth USD120,714. Seven new nucleus farmers were linked into supply chains of three existing and two new markets in Southern Ghana during the reporting period selling more than 800mt of commodity worth more than US\$204,510 to their new markets: InterGrow, Premium Foods, Yedent, Takoradi Forces and Agboghloshie.

The project organized the second annual Pre-harvest Event in November 2012. These events brought together over 600 participants to network and establish business contacts for the sale of produce for the season. Participants included radio presenters and bank officials, some of whom have financed a number of supply chains of project beneficiaries and were interested in a better understanding of their operations. The pre-harvest event is increasingly replacing previous activities such as buyer missions and business fora by traders, especially from southern Ghana to the North because of the high participation and larger audience that the event provides.

4.1.7 Build Trust for Investments into Supply Chain Models

Twenty-three people were trained across operational areas in support of out-grower scheme management during the reporting period. The training courses, designed for nucleus farmers and lead aggregators, included the use of performance incentives, essential elements to consider in entering into purchasing agreements, and types of purchasing contracts. Post-training some farmers have begun using the knowledge gained to enhance their work. For instance three nucleus farmers, Alhaji Zakaria of Gundaa Farms, Iddrisu MacAdams and John Mulinye, rewarded five farmers as best performers in the 2013 season from their out-grower schemes.

One hundred and twenty-three weighing scales were provided under the grants scheme to nucleus farmers and aggregators in Northern Ghana. The provision of weighing scale by the program to nucleus farmers has introduced a high level of transparency into the sale of produce to end markets. A survey indicated that all sales for certain identified high end-markets (example PFL) are being conducted in weight rather than the traditional 'bags' or other volume-related measurements. Some customers even bought re-bagged produce to facilitate easier loading and off-loading. The increased use of this process for purchases is improving trust and guaranteeing continued use as a standard.

Four capacity building workshops on contracts and contracting mechanisms were held for six aggregators, 29 nucleus farmers and 246 out-growers. Three nucleus farmers who participated have since used the knowledge gained to make contracts and supply 239mt of maize to two end-markets. Two-hundred and forty trained out-growers have also signed formal supply contracts with aggregators since their training.

4.1.8 Track sales of 2012/13 maize crop through supply chains

More than 3,500mt of maize worth USD \$1,190,405 was traded in 26 supply chains tracked by the project during the reporting period (see Annex 4). Using information on sales tracking forms distributed to actors, comments received indicated increased satisfaction of buyers of the quality of produce being sold and time of delivery on contracts. ADVANCE's support to the process with the provision of weighing scales, moisture meters, shellers, and tarpaulins, has contributed to such satisfaction on quality of maize supplied to end buyers.

4.1.9 Support the Ghana Grains Council

The Ghana Grains Council (GGC) made progress on meeting its vision, mission, strategic and operational objectives set by the board of directors at the beginning of the year in four key areas: financial management, acquisition of new members, implementation of a warehouse receipts system, and strengthening of human resource capabilities. The GGC continues to bring in new members to the Council with revenues of \$45,740 realized from 36 active and fully paid members. This brings the total contributions from its members to US\$117,617 since the inception of the GGC.

Two warehouses were certified from which over US\$1,000 was realized from certification fees. Though several additional warehouses applied for certification during this period they did not meet the GGC certification standards stated in the association's rules and regulation.

Two new staff were recruited, including an office manager to strengthen the administrative base of the GGC secretariat and a Central Depository Assistant to manage the newly set up warehouse receipts central depository. In addition, a new office was opened in Tamale in which a project coordinator, business development officer and agribusiness expert will be located. These staff will implement the new warehouse receipts promotion project funded by the Alliance for a Green Revolution in Africa (AGRA). Administrative and technical support will be provided to GGC members through this office.

Prudent financial controls and cost saving measures implemented by the GGC have proven to be very effective. The operational cost ratio on total grants was 0.55 or 55%, lower than the targeted 0.98 or 98% expected. A successful external audit has been carried out and the recommendations are being implemented.

During this period, two grant proposals submitted to AGRA and the Business Sector Advocacy Support Fund (BUSAC) to support the association's warehouse receipts program were successful. Subsequently, the BUSAC fund has trained 21 members of the association in business advocacy skills.

Design and Installation for Warehouse Receipt Manual Platform

With direct support from ADVANCE, the design and installation of the paper-receipt software to implement a warehouse receipts program for four warehouses were completed. The software was approved for implementation by the GGC board of directors in December 2012 after a successful consultation with industry stakeholders including farmers, processors, traders, collateral managers, insurance companies and financial institutions.

The warehouses issuing receipts include Wienco Ghana Limited in Tamale, Gundaa Produce Company in Tamale, Savanna Farmers' Marketing Company, a warehouse built

under MiDA in Tamale, and Bonyon-Ejura, also built under MiDA, in Ejura. The software includes security features on the paper receipts that can identify or authenticate a document as original as well as demonstrate evidence when fraud is attempted. The paper provides physical level security and is designed to withstand wear and tear from normal everyday handling. Each paper contains features including:

1. A watermark of the GGC logo
2. A color print of the GGC logo on the top left corner of the sheet
3. A serial number located at the bottom of the sheet
4. A bar code representing the serial number located at the top right hand corner of the sheet

The receipt is designed to ensure that each warehouse receipt has a unique serial number and a different bar code.

First Official Warehouse Receipt Operation Delivery

Warehouse receipt software developed by the GGC was installed at a warehouse owned by Wenco Ghana Limited, a warehouse operator and grain aggregator supporting farmers' out grower schemes in Tamale, Northern Ghana; and on 20 December 2012 the first receipt was issued for 374 bags of 50 Kg (18.7Mt) grade 2 white maize. To date Wenco has issued a total of forty eight warehouse receipts for 15,827mt of maize. Also a milestone, warehouse receipts have been used as collateral to back a \$1.1million line of credit from Stanbic Bank-Ghana, through CCH Limited, both members of the Ghana Grains Council.

GGC trained Wenco's staff, comprising of a warehouse manager, grain sampler, weigher, and data entry clerk, on warehouse receipt preparation, grain sampling, weighing, grading, grain certification standards, and how to use the software to create warehouse receipts.

Launch of Newly Constructed 500MT Warehouse

Construction of the 500mt warehouse was completed with technical and financial support from USAID/Ghana's ADVANCE project and handed over to Gundaa Produce Company Limited on March 13, 2013 in Tamale, Northern Ghana. The warehouse, officially launched by the USAID Ghana Mission Director, drew a crowd of over 150 farmers and other value chain actors. The Ghanaian Minister of Food and Agriculture gave the keynote address at the launch.

Alhaji Zakaria Alhassan, (owner of Gundaa Produce Company) who supports and aggregates maize from eight farming communities in the Northern Region provided the land for the warehouse site and has an lease-to-own agreement with GGC over five years to meet his 30% leverage commitment; the remaining costs were covered by USAID/Ghana through the ADVANCE project. The package included the architecture design per the GGC standards for a warehouse, furnishing the warehouse with all required equipment that met the GGC certification qualification for a grain warehouse to issue warehouse receipts, training warehouse staff on GGC rules and regulations, grain standards, storage practices, use of warehouse receipt software to create receipts, risk management, contracts, and grain quality certification, assignment of a collateral manager to enforce its warehousing standards as well as implementation of the warehouse receipts and inventory counting processes.

The warehouse will help Gundaa Produce Company and its farmers address challenges with post-harvest grading and storage using the new equipment (cleaner and bagger), grain marketing, credit system such as variable seasonal prices for grains, variation on weight and quality and address farmer's limited access to credit.

Organize community based membership drive forum

A number of membership drives were targeted at various grain value chain actors to sign on as members of the association. This included membership recruitment at the Pre-Harvest Event which brought buyers and sellers together in Tamale. GGC also participated in an exhibition facilitated by the African Connection Marketing in Tamale by targeting value chain actors to understand GGC's programs, activities and benefits. In collaboration with GIZ/MOAP/PTH, GGC organized Value Chain Enhancement workshops in Sunyani and Techiman. The objective was to attract more members to sign on with GGC. This resulted in 600 enquires about membership from the general public, particularly value chain actors in the grains sector, 60 of whom completed membership application forms for GGC's consideration.

Through the collaborative activities jointly carried out with WFP, GGC met with 16 farmer based organizations (FBO) in the Ashanti and Northern Regions. The farmers were sensitized on post-harvest management practices, grain standards, warehouse receipting, and contract management. Each FBO has, on average, 50 farmers and will be offered GGC regular membership.

4.2 RICE VALUE CHAIN

The main rice farming activities during the reporting period were the harvesting, threshing, drying, packaging and marketing of the main (rainy season) crop and planting of the mid-season crop. While farmers were looking for the best markets and sources of credit for re-investment and/or expansion, aggregators and other investors were busy buying for their various end markets, investing in production of the mid-season crop or making follow-ups to recover their investments in kind or cash. Major strides were made in promotion of contracts for sales in supply chains. Women's groups were supported to do more efficient parboiling and a processing mill with the processing capacity of 3mt/hour was completed with an aggregator.

Rice at a Glance under ADVANCE

Total area cultivated (Ha)	3,146
Total production (MT)	8,180
Average yield, (mt/ha)	2.6
Total number of farmers	4,086
Number of Aggregators	12
Number of Processors	18

4.2.1 Rice Production and Productivity Improved

Seventeen nucleus farmers, 411 out-growers and leaders of 45 FBOs were linked to acquire 2.66mt of certified seed of varieties in high demand for the mid-season crop. The sources of seed include the MoFA seed inspection units and private sector investors, e.g. Premium Foods Ltd (PFL) and AMSIG. Seed acquired from MoFA were sold to farmers but PFL is working with 13 seed growers to multiply 1.14mt of Jasmine 85 foundation seed at ICOUR to be used for an intended production during the next planting season.

In collaboration with the Seed Inspection Unit of MOFA, the project trained 101 farmers, including 15 seed growers and input dealers, on the importance of certified seeds, types of seed, available seed varieties, germination test before sowing and rogueing techniques during seed production..

4.2.2 Increase rice yields and production volumes

In the 2012 harvest period, the project observed that rice production increased by 8,180mt with project-assisted farmers. These increases were particularly for the Jasmine 85 and Togo Marshall varieties, and smallholders had average yields of 2.6mt/ha.

To improve yields, the project has been promoting the SRI technique for rice production since 2012 and during the reporting period, the project trained 86 lead farmers in the SRI technique at ICOUR. Though the SRI practice is labor intensive, farmers are beginning to adopt it, assisted by the project which developed six "transplanting gangs" to offer services to farmers. By encouraging farmers to develop transplanting gangs a new service is provided to smallholders and nucleus farmers. At the Botanga Irrigation Project, aggregator AMSIG Resources provided production inputs, such as seed, fertilizer and payment for transplanting, to 29 farmers to cultivate 14 hectares using the SRI technique. This is in addition to 55 self-funded farmers who cultivated 28 hectares of Jasmine 85 using the SRI technique and a plowing service investment of 119 ha by PFL, both at the same location. As an alternative to manual labor, PFL purchased a mechanized transplanter for use at ICOUR as a service for the first time this year. One hundred and sixty-one (161) additional hectares

of land were brought under rice cultivation during the reporting period. This was done through support to address availability of labor for critical stages of rice production and the organization of groups to receive credit facilities.

Farmers' visits to various demonstration sites on the SRI technique have resulted in more than 100 farmers committed to the technique and 65 others on a first time trial basis, to establish their mid-season crop at irrigated sites. ADVANCE has contracted the services of GRIB to provide technical assistance to 1500 farmers, including the ones who are trying the technology for the first time, to sustain these interests.

Six farmer field days at six demonstration sites were organized during which farmers observed the SRI and harvesting techniques. A total of 250 farmers participated and learned that planting in rows, planting one seedling per stand and the use of compost instead of inorganic fertilizers, as recommended by SRI, can double current yields. A visit was also organized for 123 farmers from the Northern and Brong-Ahafo Regions to observe rice farmers at the ICOUR irrigated sites.

4.2.3 Increase access and use of inputs and equipment

Discussions are on-going with input dealers on the concept of 'spraying service providers' in support of safer agro-input use, and increased sales promotion activity is being pursued. Seven spraying service providers were trained with the assistance of the Environmental Protection Agency (EPA) and are linked to rice producers in 7 communities in the Brong-Ahafo region. Training for a similar purpose was carried out by an input dealer, Kwame Amobey of Amoakwa Glory Enterprise for 19 FBO leaders and farmers, on proper agrochemical handling and safe use at point of sale, on advice from ADVANCE.

A number of inputs and equipment support to farmers were facilitated during the reporting period. Premium Foods Limited provided 527 farmers (280 at Botanga and 247 at ICOUR) with land preparation services covering 230 hectares for the cultivation of their mid-season crop. Farmers are re-paying directly in cash or in-kind at harvesting time. Capacity building in support of the effective use of equipment and tools provided under the small grants scheme was another area of support. Forty five farmers were trained on how to use rotovators provided under the scheme at the ICOUR irrigated site. These farmers have used their implements to prepare their own farms totaling about 60ha and rendered paid rotovating services to about 200 other farmers.

Aggregators Change Stock Taking

Three rice industry actors received a US volunteer under the Farmer-to-Farmer program to have training on records keeping, inventory management systems, budgeting and sales managements. A receipt system and transfer slips were also designed for the aggregation firms to manage and take inventory of their stock.

The aggregators have started using these to track stock more effectively and are proud to share that they can now tell quantities of paddy/milled rice in stock, quantity of sold etc. using their inventory records and transfer slips.

4.2.4 Rice Supply Chain Relationships Strengthened

Procurement of produce based on contracts helps both the buyer and seller to plan their activities and represents a good supply chain model. The team facilitated the signing of a purchase agreement between Premium Foods Ltd (PFL), Tono Irrigation Project (TIP) and the Tono Irrigation Cooperative Farmers' Union (TICFU) for the supply of 1,275 mt of paddy by January 31, 2013. Though TICFU was only able to deliver 122.59 mt of paddy valued at US\$34,520, this was seen by both parties as a good start to an activity that must continue.

The main challenges were: delay in signing of the contract by TIP and TICFU, anticipation of other buyers competing for the product due to the relatively low price offered by PFL, and the low moisture content of the paddy that discouraged more purchases by PFL.

The project also facilitated 10 buyer missions to the north for buyers in the south to meet with farmers. Nine aggregators already working with the project and one new buyer, Zenabu Yakubu, bought 943.6mt of rice worth \$463,333 as a result of these missions.

To further improve the contracting mechanism and promote transparency, ADVANCE helped 184 aggregators use standard weights and measures when selling and buying rice. They now use weighing scales and moisture meters to determine quantity and moisture content of rice to their end market buyers.

4.2.5 Build institutional capacity of rice industry associations

The Ghana Rice Inter-professional Body (GRIB) is working with ADVANCE to help strengthen GRIB's support to members in the rice production areas of North Ghana. The arrangement will ensure that 1,500 farmers receive training in the SRI technique. GRIB is working closely with the GGC on how best to institutionalize the use of grades and standards in the rice trade. During the reporting period, GRIB trained 427 smallholders and aggregators (33% male, 67% female) on GSA-grades and standards in 9 communities in 3 districts.

4.2.6 Improve rice processing capacity

The installation of milling facilities to upgrade the operation of one of the southern-based rice buyers, Sadia, was completed during this reporting period. The mill has an installed capacity of 3mt per hour with grader, polisher and whitener, allowing it to produce competitive products out of locally grown rice for the Ghanaian market.

4.3 SOYBEAN VALUE CHAIN

In the first half of year four the ADVANCE project worked with 34 soybean nucleus farmers with a total of 3,337 out-growers. These farmers sold 1,417mt of soybean valued at \$511,694 to seven end-market buyers in southern Ghana. ADVANCE's strategy is to improve soybean productivity and production to reduce importation of beans or cake which negatively impact smallholder soybean market opportunities.

4.3.1 Outlook on soybean performance

In the 2012 growing season farmers working with ADVANCE planted 4,909 hectares of soybean. At an average yield of 1.2 mt/ha, 5,890mt of soybean was produced. At an average price of \$444/mt, estimated revenue of \$2,615,160 was realized. The average world soybean price of \$538/mt has positively increased demand for locally produced soybean grains and cake.

Soybean at a glance under ADVANCE

Total amount of seed (Mt)	117
Total area cultivated (Ha)	4,909
Production (Mt)	5,890
Yield (MT/Ha)	1.20

Actors

Nucleus Farmers	34
Out-growers	5,222
Aggregators	9
Major Buyers:	7

4.3.2 Improved Soybean Productivity

Eight seed growers including Big Ajar and Mashood Dori(Wa East and Wa Metropolitan) in the Upper West region, Zakaria Iddrisu and Abednego Abosore(Tamale Metropolitan and Yendi District) respectively of the Northern region and Martin Pwayidi and Janet Nyabase(Kasena Nankena and Builsa District respectively) in the Upper East region, were trained in seed handling, marketing and gross margin analysis to improve efficiency in the seed delivery system resulting in the use of better packaging and use of promotional tools in marketing. Two nucleus farmers also acquired soybean threshers through ADVANCE's small equipment grant facility to enhance their operations and improve seed quality.

4.3.3 Promote the production of soybean seed

Two new Northern region seed dealers, who double as seed growers, Baba Salihu and Alhaji Mahama Issahaku , were selected to augment the existing number of seed dealers to expand the seed distribution network. The two seed dealers together produced 16Mt of certified soybean seed in the 2012 season.

Seventeen (17) seed growers supported by the ADVANCE program - including Zakaria Iddrisu Sumani, Alhassan, Abednego Abosore, Baba Sualihu, Alhaji Mahama Issahaku(Northern region); Mashood Dori and Antika(Upper West) and Martin Pwayidi (Upper East region)- planted 147ha of soybean seed during the 2012 growing season. From the above mentioned area, 117mt of certified soybean seed was realized and conditioned, sufficient for planting an estimated 2,340ha in the 2013 crop season. This represents a 30% increase in the target of 90mt for 2012.

Over 60% of current stocks of seed are of the Jenguma variety which is the most preferred because of its high yielding and shattering resistant qualities. Anidaso constitutes 34% while Quarshie and Salintuya make up 6%. Unavailability of Jenguma foundation seed made it impossible for some seed growers to produce this preferred variety. The four varieties with

different attributes including maturation periods give the farmer options in the choice of a variety.

Currently, seed of all the soybean varieties are being stored at the seed plants of the Ghana Seed Inspection Service Directorate of MoFA in Tamale, Bolgatanga and Wa. The government seed subsidy program will be implemented for a second time in 2013 season; again using three accredited dealers, Antika(Upper West) Baba Kumasi (for Upper East) and Ganoma(Northern region).The subsidy will be 25% of last year's rate and limited to small holder famers with up to 1ha. Commercial farmers will enjoy seed subsidies at rates yet to be finalized. Seed growers will sell their production to the three government accredited dealers for distribution to farmers.

Antika is one of the ADVANCE- supported seed dealers and a government designated seed agent. The seed promotion program initiated last year with ADVANCE-assisted growers and dealers will continue and deepen in 2013, and nucleus farmers will play a key role in the seed distribution efforts. Following approval of the Ghana Seed Policy and its implementation, seed dealers may enjoy basic infrastructure for seed distribution to avoid a situation where seed stored under hot environments at the community level are sold to farmers. Growers and dealers will also enjoy upgraded seed laboratories in the regional and some district capitals to enhance seed testing.

4.3.4 Improve yields through technology promotion

Soybean yields from NFs, FBOs and OGs were monitored during the period. A total of 5,890mt was produced by ADVANCE actors in the 2012 season with Jenguma and Anidaso and Salintuya 1 as the dominant crop varieties.

Thirty-three soybean demonstration sites were established to introduce smallholder farmers to improved technologies. Two varieties; Jenguma and a Brazilian hybrid-Sambaiba were evaluated using four treatments; control (no fertilizer and no inoculant); inoculants, phosphorus based fertilizer and a combination of fertilizer and inoculant to give 8 plots per site. Private and public sector institutions such as YARA, N2Africa, Chemico Ghana Ltd, Glory and Jaguar, MakhteshimAgan and Louis Dreyfus Enterprise partnered with ADVANCE to establish the demonstrations while 33 nucleus farmers provided land and labor.

Thirty-three demonstration farms were established in 22 districts in the Northern, Upper East and Upper West regions. Six sites were abandoned because of floods and the Sambaiba plots was also discarded because of low germination; data was collected from only the Jenguma plots.

Results from the demonstrations show that soybean yield increased with the addition of inoculants and phosphorus based fertilizers. Application of fertilizer alone resulted in 74.6% increase in yield. A combination of fertilizer and inoculant gave the best result and increased yield by 74.9%. In general, an average yield of 1.5mt was recorded at all the 22 locations. The lowest yield of 0.6Mt/ha was recorded on plots without fertilizer and inoculant while the highest yield of 2.9mt/ha was obtained from plots treated with a combination of phosphorus based fertilizer and inoculant. Economic analysis also shows that it is more profitable to grow soybean with fertilizer and inoculant. While the application of only fertilizer gave a margin of US\$410/ha, the combination of fertilizer and inoculant gave a margin of US\$444/ha.

The results further revealed that for all the treatments applied in the demonstration, the Upper West Region recorded the best performance ranging from 1.5mt/ha without fertilizer and inoculant to 2.9mt/ha with a combination of fertilizer and inoculant. The application of Triple Super Phosphate SP instead of the YARA legume fertilizer and good weather conditions may have contributed to the high performance.

The choice of inoculant and phosphorus based fertilizer by a farmer will depend largely on his/her ability to invest in these inputs. In addition, adoption of good agronomic practices was demonstrated to play a significant role in yield increases.

Twenty-two nucleus farmers and out-growers were encouraged to use simple technology such as tarpaulins to reduce post-harvest losses, especially those that had benefited from project-supported tarpaulin sheets provided in 2012. Monitoring revealed that 16 NFs who received a total of 73 tarpaulins made them available to 1,098 out-growers for threshing and drying their harvested produce in order to reduce the percentage of inert matter in soybeans, a major concern of buyers.

Regarding quality of locally produced soybean, nutrient analysis of the grain showed that protein levels are 36% while fat content is 19% which meet global standards for processing. Protein and fat levels do not constitute a critical success factor in processing but rather the foreign matter content. With improvement in mechanized threshing methods to reduce foreign material, locally produced soybean will be able to compete not only on price but also quality.

4.3.5 Strengthen Soybean Supply Chain Relationships

Twenty-eight weighing scales were distributed to 18 NFs/aggregators through the grant program to ensure trust, transparency and to eschew conflicts among NFs/aggregators and their out-growers during purchasing of produce during the third quarter of PY 2012. Monitoring indicated that 12 of the NFs/aggregators – (John Nantey, Ernest Asoi, Nicholas Lambini, Kharma Farms, Bogu Seed, Ramsali, Salaga Cooperative, all in the Northern region, Big Ajar and Yahiya Iddrisu of the Upper West region and Mary Anibinga and Mariama Karimu of the Upper East region) - were using the weighing scales to purchase produce from out-growers for sale to end market buyers.

Using scales enables NF and aggregators to buy at a standard weight of 100kg instead of buying and selling in bowls or bags of variable weights. Also, 23 NFs/aggregators were trained during the period to enable them to track produce they sold or supplied to buyers. As a result of the tracking system 1,417mt of soybean was delivered to 7 buyers/ processors in the south. These actors and their agents were taken through the various steps of the ADVANCE sales and volumes tracking forms.

The Pre-Harvest Business Forum, organized in October 2012, brought processors based in the south to interact with various actors in the supply chains and other development partners in northern Ghana. Twenty-nine NFs/aggregators and FBOs in the soybean supply chains participated. These events deepen relationships between existing actors while new ones were established. New relationships built as a result of this recent event were between Ernest Asoi and Nicholas Lambini of Kukunansor/Anonshei Women Associations (Northern region) and Mary Anibinga (Upper East region) and Kwesi Nyameckye of Vestor Oil;

Thomas Bello of Golden Web and Salaga, Kpandai and Chamba Co-operatives and between Inusah Abdulai and Ghana Nuts. A new buyer, Intergrow was identified during the pre-harvest and linked to Mary Anabinga in the Upper East region. Ernest Asoi and Nicholas Lambini had supplied about 35mt of soybean from farmers this year through supply chains valued at GH¢24,500 to Vestor Oil while Golden Web is yet to take delivery of 20mt of soybean from the Co-operatives.

Furthermore, the 2nd Pre-season Business Networking Event was held at the UDS International Center in Tamale on March 14 2013. The event created a platform for business firms such as input companies, mechanized equipment dealers, financial Institutions, end buyers, aggregators, and NFs to interact and build business relationships for a productive 2013 farming season. Twenty-five soybean NFs participated in the event.

4.4 INPUTS AND EQUIPMENT

The focus of activities in the reporting period was the use of post-harvest handling equipment during the harvest period between November 2012 and January 2013.

4.4.1 Increasing access to mechanization services

The small equipment grant (SEG) arrangement successfully placed affordable small equipment to the value of USD \$5,000 with nucleus farmers, FBO members and outgrowers across the north of Ghana. In addition, 10 Massey Ferguson tractors were purchased under the grants program for 10 nucleus farmers who had defined end-markets, such as Premium Foods Ltd and Integrow. Arrangements were, in some cases, made where the end-market buyer covered the 30% leveraging payment on behalf of the nucleus farmer and in December/January received payment in kind at harvest. Other nucleus farmers paid cash or arranged for bank loans to cover their payment up front.

Forty-one shellers and threshers (for maize, soybean and rice) were procured under the SEG for 41 mechanization service providers and nucleus farmers offering post-harvesting services to their outgrowers. With the grants 6,353.20mt of maize was shelled by 33 nucleus farmers and mechanized service providers for 1,496 farmers across project locations with estimated value of UD\$144,850. This investment has reduced post-harvest losses from about 15% of normal traditional shelling by beating, to an estimated 5% using the shellers/threshers and tarpaulins.

Private sector companies provide after-sales services to clients

Mechanical Lloyd Company provided training in tractor operations, procedures, technical and management skills, servicing and maintenance and simple tasks such as hitching and unhitching implements to all the ten tractor operators/owners.

Eight Ghanaian north-based equipment manufacturers and importers provided 111 farmers with after-sales service on proper use and maintenance of products bought including power tillers, shellers, threshers, dibblers, etc. Farmers appreciated the relationship they are building with the vendors and repeat-sales are increasing as a result.

The approach adopted by the project to link farmers to equipment dealers using the grants as leverage has positive effects on equipment sales by vendors and promotes opportunities to reach out to farmers. For example, Ghana-based MaxBaff General Works in Nkoranza increased his sales by 100% (US\$21,762 to US\$45,337) within a six month period after he was introduced to farmers through the small equipment program.

Building on a 2012 US volunteer assignment to tractor service providers' association (SATO, Upper West Region with 71 members) to improve the efficiency of their services and keep proper records, another volunteer has trained the associations' 36 executives and operators on organizational development, strategic management and planning to further improve the running of their business operations and to optimize returns on their investment.

ADVANCE also distributed 10 new parboiling vessels to 10 farmer-based organizations in the Tolon/Kumbungu Districts of the Northern Region in collaboration with the WFP/P4P program. Following this, 450 women farmers were trained to use the equipment properly. The groups supply to Lolandi Rice Processing Center and AMSIG Resources. The project studied the impact of the vessels on the FBOs' costs and determined that with the new equipment they can reduce their operating costs for parboiling rice from US\$4.88 to US\$2.51 per 100Kg bag of paddy and can parboil between 80 and 100Kg of paddy rice per day.

4.4.2 Improving Business Links between Service Providers and Farmers

To ensure timely access to mechanized services and enhance linkages between mechanized service providers and farmers, ADVANCE is finalizing a tractor census survey in the Northern Region to determine numbers of tractors, type and brand, condition of tractor, and where the tractors are geographically located. To date, 858 tractors have been mapped in five districts of the region. The activity will be completed by the end of April 2013.

At two irrigation sites, the project has facilitated plowing services for farmers at Bontanga Irrigation Cooperative Farmers Association in Northern Region, and ICOUR Tono Mill in Upper East Region. The farmers did not have adequate tractor or plowing services for their irrigated rice production, and through ADVANCE, two tractor service providers and nucleus farmers, ZoccoFams and Gundaa Produce Company, plowed 130 hectares of land with a revenue of GH¢4,183 and GH¢41,422 for each company respectively. The farmers will pay for this service in-kind after harvest.

4.4.3 INCREASED PRODUCTIVITY THROUGH EFFECTIVE USE OF AGRO-INPUTS

North Ghana has a thriving agro-chemical industry with strong linkages between input importers, retailers and community agents.

From ADVANCE observations and research in North Ghana, the input retailers in cities do not have the time to provide farmers with detailed information and guidance on how to properly apply agrochemicals. The ADVANCE project designed a pilot program through which importers train community retailers directly on new products and proper application to ensure farmers are given the correct information. Community retailers have linkages with spraying service providers and the approach will involve importers, such as Louis Dreyfus Commodities and Dizengoff, providing the necessary protective clothing to spray service providers. The input importers will also pay for spraying service providers to become EPA certified.

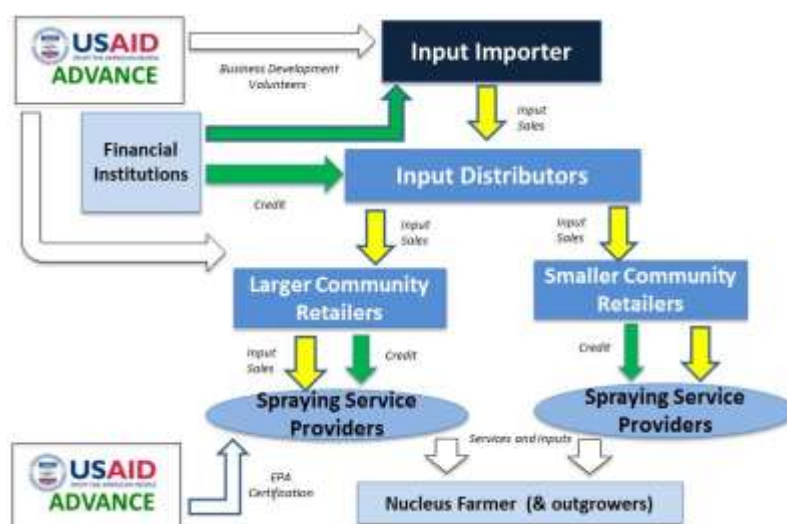


Figure 4-1: Input Distribution and Services Model

4.4.4 Strengthening linkages between value chain actors

To enhance cooperation, effective networking and healthy working relationships along the agricultural value chains, ADVANCE, in collaboration with IFDC, GAIDA, and other development partners, organized a pre-season event under the theme “Quality Inputs, Better Yields, More Profits”. The one-day agribusiness event brought together actors in the agricultural sector. Ten equipment and 12 agric-input dealers showcased equipment and agric-products available for the 2013 cropping season. The event created opportunities for business interaction, networking and working relationship building between dealers and

farmers to improve access to agricultural machinery and agro products. Over 500 farmers and private sector companies attended the forum, held at UDS Conference Center in Tamale.

Input importer, B. Kaakyire Agro Chemicals, plans to establish a local agricultural mechanization training center in the Northern and Upper West Regions. They also demonstrated their new bicycle-operated irrigation pump at the exhibition which attracted farmers' interest.

4.5 FINANCIAL SERVICES

During the reporting period, the project's focus on agricultural financing included:

- i) Supporting with the implementation of the Development Credit Assistance (DCA) mechanism
- ii) Improving relationships and knowledge amongst Value Chain Actors
- iii) Improving the capacity of Financial Institutions to provide Value Chain Financing
- iv) Improving credit analysis and use of financial tools
- v) Facilitating loans disbursements by institution since October 1, 2012
- vi) Improving financial management for Value Chain Actors
- vii) Improving financing options
- viii) Establishing trade finance between Value Chain Actors

4.5.1 Development Credit Assistance

ADVANCE has provided ongoing support to Sinapi Aba Trust and Ecobank to expand their loan portfolios into the agriculture sector under the DCA initiative. ADVANCE's interventions have included training in agricultural finance and risk analysis, facilitating site-visits by loan officers to farms and agribusinesses, and supporting actors in developing business and financial plans. These interventions are described in further detail in sections below. The point worth noting is that this is a learning process both for financial institutions, which have limited experience lending to agriculture, and value chain actors who have limited experience accessing credit. ADVANCE is helping financial institutions to buy down risk by facilitating linkages to value chain actors to assist in screening, disbursement, monitoring and repayment loan intermediation functions. There are several examples of this: loans for aggregation and marketing are secured through tri-partite agreements with buyers; equipment and production loans are typically disbursed in-kind through input suppliers; and nucleus farms, cooperatives and aggregators play active roles in providing technical support, character references, and monitoring of loans. ADVANCE's role as facilitator has included linking banks to promising actors, demonstrating where there is mutual commercial incentive, and providing capacity building so actors can play these roles on a sustainable basis. It is expected that once these "start-up" barriers are overcome and client relationships established, agricultural lending will expand more organically.

The loan pipeline below provides a snapshot of progress to date of loans which have been facilitated by ADVANCE that are submitted (and still pending), approved and ultimately disbursed. It does not reflect loan applications which are under development. The results are focused given the timing of the past six-months primarily on aggregation and marketing activities. In particular, this appears to be an area of interest for Ecobank. This type of lending has enabled access to working capital for many nucleus farmers and aggregators to

off take product from rural areas to sell to buyers and processors - directly improving market access to smallholders. Furthermore, as actors are able to rely on these facilities in the future, it frees their equity to invest in other production-related activities.

Ecobank / ADVANCE-facilitated Loan Pipeline from October 1, 2012

Region	Actor	USD	Purpose	Status
Upper East	Amokwa Glory Enterprise	15,544	Input Supply	Submitted
Upper East	Ben Awuni	20,725	Equipment	Submitted
Upper East	Martin Arikui	19,689	Marketing	Disbursed
Brong Ahafo	Peter Okrah	51,813	Marketing	Submitted
Brong Ahafo	Kwadwo Fosu	12,953	Marketing	Submitted
Brong Ahafo	Allah is Able Agrochemicals	18,135	Investment	Submitted
Brong Ahafo	Kate Achiaa	33,679	Investment	Submitted
Northern	Ganye Enterprise	51,813	Input Supply	Submitted
Northern	Yelimangli Enterprise	25,907	Input Supply	Submitted
Northern	Muyo Farmers	36,269	Marketing	Disbursed
	TOTAL	286,527		

Sinapi Aba Trust / ADVANCE-facilitated Loan Pipeline from October 1, 2012

Region	Actor Name	USD	Purpose	Status
Northern	Yong Dakpemyili	7,772	Equipment	Disbursed
Northern	Germinal Company Limited	5,181	Marketing	Disbursed
Upper West	Anbotimah Augustine	15,544	Marketing	Disbursed
Upper East	Awintuma Akande	10,363	Marketing	Disbursed
Upper West	Mashood Dori	20,725	Marketing	Disbursed
Upper East	Daniel Atigsi	2,591	Marketing	Approved
Upper West	Felix Basing	20,725	Marketing	Approved
Northern	Peasant Farmers Association	2,591	Equipment	Submitted
Northern	Lolandi Rice Processing Center	25,907	Marketing	Submitted
Northern	Alhassan Seidu	7,772	Equipment	Submitted
Upper East	Biu FBOs	36,269	Production	Submitted
Upper East	Ben Awuni	20,725	Equipment	Submitted
	TOTAL	176,165		

4.5.2 Improved Relationships and Knowledge amongst Value Chain Actors

The project has supported several forums to bring together value chain actors and financial institutions to better understand financial products, especially for the agricultural sector. At the 2013 Pre-Season event nine financial institutions participated (Ecobank, Sinapi Aba Trust, Stanbic Bank, Commodity Clearing House, Bonzali Rural Bank, Yabra Rural Bank, Kintampo Rural Bank, Injaro Agricultural Capital Holdings, Wa Credit Union) and shared information on their financial products with interested actors. ADVANCE has also sponsored visits by financial institutions, including Stanbic, Ecobank and Sinapi Aba Trust (SAT), to visit operations of actors throughout the regions. This helped them to better understand the businesses of their loan applicants and also strengthened the relationships between the two parties. Twenty of these actors (NR: 9 UER: 3 BA: 8) have in turn opened bank accounts

and are transacting business through these accounts which will make it easier for them to meet requirements for future borrowing. Also, the project sponsored a representative from Jaksally, an NGO based in the Northern Region with which ADVANCE has a MOU, along with representatives from Toende Rural Bank, WACCU, and Zabugu Rural Bank, to attend the Sustainable Microenterprise Development Program (SMDP) conference and learn principles of microfinance management and value chain finance. The objective for Jaksally is to determine how to support their existing VSLA groups to evolve operations, access additional financial services and invest in value chain opportunities.

4.5.3 Improved Capacity of Financial Institutions to Provide Value Chain Financing

Over the past six-months, the project has emphasized collaboration between financial institutions and aggregators/nucleus farm and buyers, to provide the needed capital for them to “mop up” (aggregate) produce and supply buyers. This was a critical constraint which limits market access in many areas. Having the market linkages and finance to off-take greater volumes creates confidence within the chain to expand and intensify investment, which in turn creates series of new financing opportunities. In order to get this mechanism to work, the project organized multiple site visits for financial institutions to visit buyers to appreciate the market opportunity. This in turn convinced them that there was real value in supplier contracts, and that they could use these to secure lines of credit. In the UWR, ADVANCE facilitated a visit by Wa Community Credit Union (WACCU) to Royal Danemac and Yedent. Based on a tripartite agreement, WACCU provided a USD 22,798 loan for Yahaya Iddrisu, which he was able to supplement with his own business’s capital to supply over 300 mt of soya and 130 mt of maize worth over USD181,347 to the two buyers.

Further up the value chain, the project worked with processors to access working capital financing. In the Brong Ahafo Region, ADVANCE facilitated a USD 311,917 loan from Root Capital, a US venture capital fund to Royal Danamac Ltd, a soybean processor in Kumasi, and Royal Golden Egg, a poultry farm and feed mill processor in Dormaa. Royal Danamac Ltd received an amount of USD 73,575 to purchase soybean from smallholder farmers in the three Northern Regions, and Royal Golden Egg received an amount of USD 238,342 to purchase maize from two supplying aggregators and ADVANCE – Peter Okrah, representing 350 outgrowers in Badu and Kwadwo Matu representing 450 smallholders in Kwabia.

As our partners gear up for the coming production season, the project is shifting its focus towards supporting financing for investment in equipment and working capital to intensify production. The project trained staff of Sinapi Aba Trust in their Tamale, Salaga, Wa, Techiman, Jirapa, Atebubu and Sunyani branches as well as WACCU on financing agriculture with minimum risk. The training focused on helping loan officers evaluate farm business plans, financing needs, assess and mitigate risks related to agriculture, and structure appropriate production loan products. ADVANCE also provided crop budgets as well as “Doing Business with Maize” handbooks to some branches and will continue to engage key branches with crop demonstrations and other knowledge-sharing sessions.

It is worth noting that there are two emerging models of interest for production lending. The first is the *direct lending model* to the farmer or farm groups. This model typically features in-kind disbursement through an input dealer, an aggregator or nucleus farmer as a buyer reference, and a moral guarantee from members of a farm group. Many rural banks, MFIs

and credit unions, which are positioned in rural areas, are launching into this. ADVANCE is providing support this season to help these and other institutions, Sinapi Aba Trust in particular, to streamline and systematize their credit processes to make the production loan process more analytical, reliable and rapid (see the financial tools section for more information on this).

The alternative *production loan model* is building off of a trend which is gaining momentum with nucleus farmers. There is a profit incentive for nucleus farmers if their outgrowers earn good yields because it improves repayment of tractor services and provides access to greater volumes within the supply chain to thresh and market. So some nucleus farmers are providing inputs on credit to their outgrowers. ADVANCE has already supported 14 nucleus farmers in the UWR to do this. To help continue this trend, particularly in other regions, the project is providing tailored assistance to nucleus farmers in April on nucleus farmer-outgrower management, financial planning and credit risk management. In cases where there is a financing need by the actor, the project will link these actors to financial institutions.

4.5.4 Improve Credit Analysis and Use of Financial Tools

In the UER, the project monitored use of the risk credit scoring tool developed under ADVANCE. This has been rolled out to four rural banks (BESSFA, Builsa Community Bank, Toende Rural Bank and East Mamprusi Community Bank) to assist with loan assessments for the 2013 season. In the UWR, ADVANCE helped WACCU, Sonzele Rural Bank, Sissala Rural Bank and Nandom Rural Bank to evaluate and improve their current credit risk management strategies.

An Excel-based cash flow tool was developed and has been provided to seven branches of Sinapi Aba Trust as well as Wa Credit Union and Yapra Rural Bank. The tool has embedded crop budgets for maize, rice and soya and allows for a systematic process of evaluating financing needed based on crop, inputs, acreage, timing, price and yield sensitivities. The objective is to help institutions establish a benchmark for analyzing crop budgets submitted by loan applicants and create confidence by managers in evaluating cash flow-based loan analysis.

4.5.5 Value of Loans Disbursed by Institution since October 1, 2012

Through facilitation by ADVANCE, partner financial institutions have disbursed approximately USD \$538,964 to actors for mostly marketing activities in the past six months.

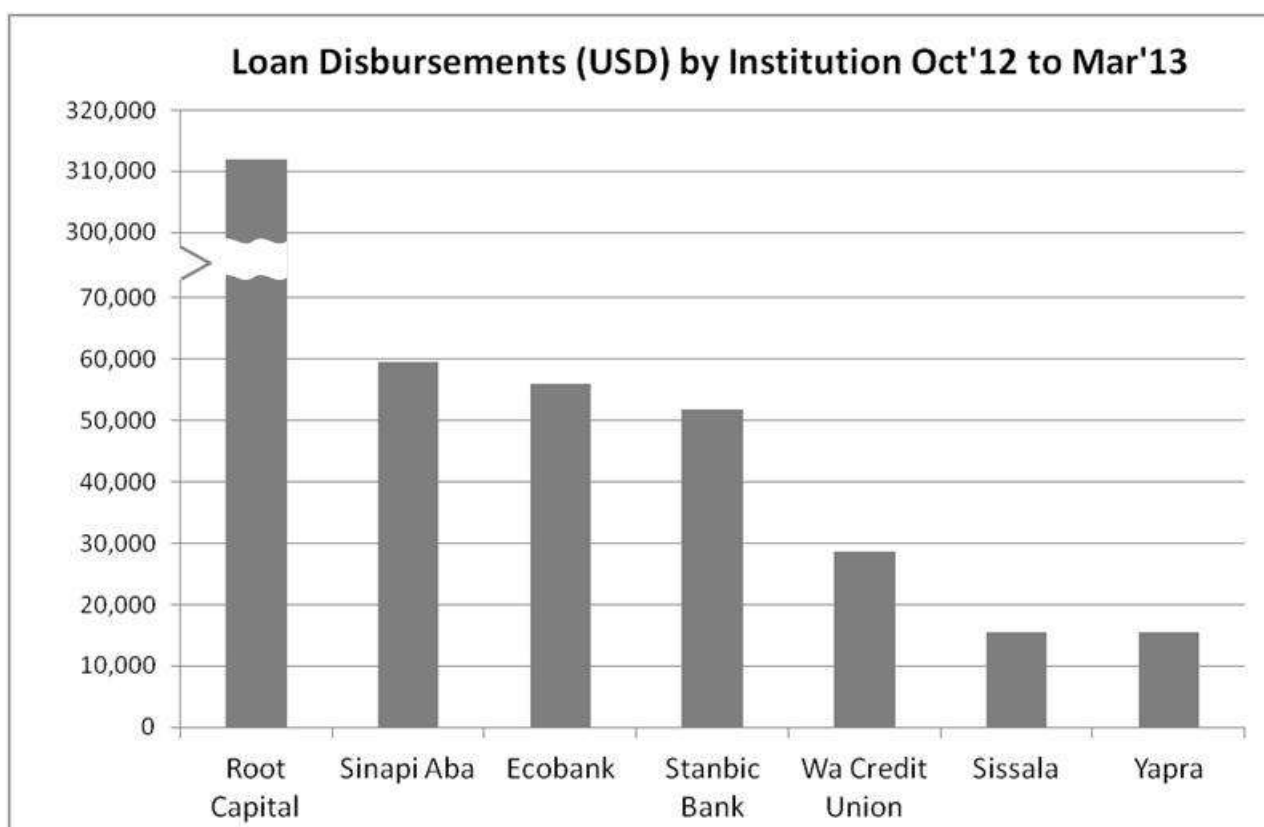


Figure 4-2: loans disbursed by Financial Institutions to Project beneficiaries

4.5.6 Improve Financial Management for Value Chain Actors

ADVANCE supported 27 actors to improve their record keeping (6 in UER, 10 Brong Ahafo, 4 in UWR, and 7 in Northern Region). This has helped to improve the quality of information used to develop balance sheets, profit and loss statements and cash flows to support loan applications. As an example, based on records kept, ADVANCE supported Martin Ariku to develop financial statements and apply for a US\$19,700 loan facility from Ecobank for maize aggregation. Also this year, seven businesses were registered including 1 in UER, 4 in Brong Ahafo, and 2 in Northern Region. This is an important step in formalization of businesses which should help them continue to secure financing in future. ADVANCE is also assisting 10 actors to adopt Quickbooks accounting and inventory software. The shift from paper to electronic accounting is critical as businesses manage increasingly complex transactions. Moreover, it provides a platform to help these businesses to manage accruals, which is becoming challenging as firms start to conduct greater volumes of transactions on credit basis. The accounting system fits fairly seamlessly with input dealers provided they can maintain accounting staff to operate it. It is hoped that this will be a tool for informed management decisions based on real-time business performance.

As the 2012 production season is over and the 2013 season starts, the project has begun to help nucleus farmers evaluate their profitability for the past year, determine their financial position and budget ahead for the coming season. A financial planning guide has been developed to help nucleus farmers analyze the different aspects of their business to determine strengths, weaknesses and growth opportunities. It is anticipated that this process

will go through April and a fresh pipeline of loan applications based on specific financing needs will be identified.

4.5.7 Access multi-party financing options improved

The table below highlights tri-partite agreements established between processors, aggregators/nucleus farmers and financial institutions which have resulted in loan disbursements for aggregation during the reporting period.

Table 4-1: Multi Party Financing Options amongst Value Chain Actors

Buyer	Premium Foods	Vestor Oils	Intergrow	Royal Danemac	Premium Foods	18th April
NF	Gundaa Produce	Muyo Farmers	Martin Arikku	Yahaya Iddrisu	Malik Nabie	Anbotimah Augustine
Amount (USD)	51,813	36,269	19,689	22,798	15,544	15,544
FI	Stanbic Bank	Ecobank	Ecobank	WACCU	Sissala Rural Bank	Sinapi Aba Trust

These sorts of structured mechanisms are helpful to cover credit risk by the lender, and there is increasing interest among financial partners. As mentioned these mechanisms are expected to grow to scale with the expansion of the warehouse receipt system. The Commodity Clearing House is looking to enter into similar arrangements using receipts as collateral to structured credit facilities.

4.5.8 Establish trade finance between VC actors

The main form of “trade finance” is *outgrower credit* facilitated through the nucleus farm model with tractor services and inputs on credit. Given the timing of seasons and prevalence of this model in the three northern regions where there is only one production season, the results of this will not be captured until the end of the next quarter. An interesting case worth noting on the marketing side is that of Yapra Rural Bank and aggregator Grace Manu. Through an expansion of the pilot of reverse factoring arrangement, described in the annual report, Yapra Rural Bank extended a US\$15,544 line of credit for the purchase of an additional 25 mt from 55 smallholder farmers in Kwame Danso and surrounding villages. ADVANCE has supported the bank and the aggregator to develop a chit system called the purchase receipt which is issued to smallholder farmers upon purchase of maize which they present at the bank for payment.

4.6 OUTREACH AND TRAINING

The main outreach accomplishments during this six month period were to expand the use of SMS messages in disseminating agricultural information through the Esoko platform to 3,000 outgrowers connected to nucleus farmers or FBO structures; increased radio listenership by 30% through listenership programs of eight radio stations, and create awareness of the project’s farmer field days which brought farmers, input dealers and others together to exchange knowledge and ideas around demonstration plots with the aim of increasing farmers’ knowledge by introducing these actors to new products and production/harvesting practices. Also, over 10,300 smallholder farmers in rural areas, of whom 44% are women,

were trained to acquire numeracy skills, farming as a business and FBO development and strengthening.

4.6.1 Delivering Agricultural Messages through Radio

In order to expand the knowledge base of agricultural programmers in new techniques to deliver effective radio messages to large audiences, eight radio presenters, out of the 16 radio stations offering programs in agriculture in the three northern regions, were sponsored to participate in a training organized by Farm Radio International on agriculture programming and radio script development through Participatory Radio Campaign (PRC) in Accra on 2 October 2012. The PRC is a planned, radio-based activity conducted over the period in which broad populations of farmers in target communities were encouraged to make informed decisions about good agricultural practices in the cultivation of maize, rice and soybeans to improve their livelihoods.

Promoting Agricultural Insurance through Radio Broadcast

In February 2013, the ADVANCE project collaboration with the Ghana Agricultural Insurance Pool (GAIP) to begin its radio program dedicated to the dissemination of information on agricultural insurance.

The first show aired on 27 February 2013 on North Star radio 92.1 Mhz in Tamale from 8.30 pm to 9.30 pm. Moderated by Abubakari Sadiq, the program will discuss topics related to agricultural insurance on a weekly basis for a period of five months. This broadcast will enable GAIP to disseminate information about its insurance products, and the Ghana agricultural insurance provision system to farmers within the catchment area of the station. The content of the discussion is translated from English into Dagbani and listeners have a phone-in segment to ask questions related to the agricultural insurance topics.

The radio station, together with GAIP, have organized community interaction sessions, the first of which was held on 15 March 2013, which are recorded and later aired on the same program.

Small grants were provided to the eight radio stations to assist them in producing weekly radio programs that feature the voices of farmers as well as experts in both live-studio and pre-recorded on-field and community forums where farmers interacted with extension officers and other experts in agricultural production.

North Star Radio Listeners Comments

To determine how effective North Star Radio Station is at reaching its audiences, the station independently carried out an evaluation on-air and at farms in seven districts of Northern Region. Farmers responded that they learnt how to apply new technologies to increase yields, time of harvesting and planting, and factors affecting climate change and the environment.

A farmer from Jantong, NR, Mr Latif said *"Normally, we the executives will ensure that all members are seated before 8.30pm and then we listen to the pep talk of the day, the weather forecast and market information, and then the topic of the day. I have noted that several members of the club including the women and most of our fathers are gradually becoming accustomed to the improved agricultural practices. Apart from the knowledge given to us by Mr. Ziblim Imoro, a MOFA-AEA on the radio, we have also been trained by the USAID funded ADVANCE program and MOFA officials in good agronomic practices which we are applying now."*

With content of programs supervised and timely selection of relevant topics, farmer-to-farmer communication was enhanced to build trust among the farmers as they interacted in their own local languages and discovered new ways of farming that enhance productivity. Broadcasts were scheduled at times farmers indicated would be most convenient and every program featured interviews and other content from agricultural experts. Every episode gave the audience an opportunity to comment and be heard.

In addition to the broadcasts on agronomic practices, the radio stations translated the weekly market prices of soya, rice and maize from Esoko Ghana

into five local languages to aid decisions on sales by smallholders to compliment the SMS price alerts being received from 38 major markets in Ghana. In this manner, farmers were able to offer their produce to buyers at competitive prices to increase their profit margins. The participation of women farmers especially among the Listeners' Clubs increased during the period due mainly to the training given to the radio stations on gender mainstreaming in agriculture. *"I did not know there are simple but effective ways to engage my listeners. I will use what I have learnt in my programs,"* Abdul Foroko of Radio Upper West remarked after the capacity building workshop for radio presenters.

Seven radio stations with a regular audience of about 3,000 smallholders have organized 90 Listenership Clubs. Farmers use these platforms to discuss agricultural issues, access information and share experiences. *Asata Dawda a member of Ambambaah Listenership club of Busa in Wa East testifies that they meet every Friday between 7- 8pm to listen to Radio Upper West and they shared the knowledge they learn together. She learnt through radio the right time for land preparation, what, when and how to apply fertilizer in soy bean production. I applied what I learnt and this year I have seen an improvement from 0.8Mt/acre as against 0.5 mt on the same acre the previous year.*

4.6.2 Delivering agricultural messages through SMS and online platforms

The project continued to promote investments by actors to use SMS and online platforms in business operations by scaling up on-going SMS activities with Esoko Ghana, Softtribe Ghana Ltd and mobile money pilots with MTN, TigoCash and Airtel Money. During the reporting period, 2,000 project beneficiaries, including nucleus farmers, outgrowers and radio stations, were trained and signed up to the Esoko platform bringing the total number of project beneficiaries using the system to 3,000. Esoko staff carried out an outreach campaign to train farmers on how to use their phones to read the messages. Farmers receive weekly price alerts, agricultural tips, buyer or seller bids and offers, and call center services through SMS messaging to their mobile phones.

The project and Esoko undertook a survey of 128 recipients who have used the Esoko package to learn what they liked and did not like about the product. One of the concerns had been that farmers may not be able to read the messages, but this was not the case; only 5% could not read the messages, and would find someone who could to assist them. Over 50% of the respondents preferred the SMS alerts to the call center services. They explained that the messages on their phones serve as reminders and they also show them to their prospective buyers as evidence of their knowledge on current prices.

Esoko SMS Messages Change Farmer Decision-making

As a result of Esoko SMS alerts farmers make better decisions in their business that help them to sell commodity for better prices and improve conditions of life. *"I receive an average of 5 calls a day from buyers who want my products; I am now able to negotiate well because of the information I get through the Esoko platform";* Yahaya a nucleus farmer in Yaro said.

Ernest Asoi and Nicholas Lambini of Kukunansor and Anonshei Women Associations, both beneficiaries, were pleased with the technology because it formed the basis upon which they sold 35 Mt of their produce valued at GH¢ 24,500 direct to Vestor Oil, a processor in Kumasi.

Thirty-five farmers in Techiman stated that the agricultural information alerts helped them to reduce post-harvest losses of their grains. Baffour Gyan, an outgrower of Peter Okrah in Badu said *"if not for the SMS information, he will not have applied fertilizer at day 14 after planting".*

The Sissala Rural Bank in Upper West Region continued to use the SMS platform provided by Softtribe Ltd. to remind farmers of their loan repayments schedules, salaries of their clients, board meeting reminders, general meetings as well as agricultural tips resulting in strong relationship between the bank and clients. This has led to lower operational costs for the bank from an average of GH¢100 a month on phone calls to customers to GH¢40 per month using the SMS system.

4.6.3 Businesses use communication and ICT tools

Mobile money initiatives are now taking off with nucleus farmers and some aggregators joining input dealers who use this new technology. Eighty-four actors have been trained on how to use mobile money in their businesses, the advantages, and how they can set up the systems. Particularly important is that mobile money reduces risk of theft to farmers operating in rural areas who travel long distances to bank branches to receive funds. Initially only MTN Mobile Money was interested in reaching out to farmers, however TigoCash and Airtel are discussing options with the project staff and attended the second annual Pre-Season Conference to introduce their products to participants.

4.6.4 Develop project-related documents

During the reporting period, the project published 1,000 copies of a new soybean production and harvesting manual, “Doing Business with Soybeans”, for farmers’ use. It was designed by the project, and reviewed with input from the N2Africa project staff at Savannah Agricultural Research Institute. A gender poster was also developed, printed and distributed to radio station staff to provide guidance on gender-related topics in agricultural programming. Lastly, the project designed and printed an explanatory diagram chart for its Farming as a Business training to provide visual materials for smallholder farmers during trainings.

4.6.5 Community training

Over 1,140 outgrowers of nine nucleus farmers who have formed FBOs are being trained in the Upper East and Upper West Regions to manage their FBOs properly. These are nucleus farmers who benefited from the AGRA-funded Arzankinmu project’s collaboration with ADVANCE to build 80-mt community warehouses in these communities. Approximately 30% of the curriculum has been covered and the remaining will be completed by the end of April. Some of the topics covered include managing group dynamics, what is a successful farmer group and drafting group constitutions and by laws.

Under the *Farming as a Business (FaaB) Training*, 6,907 smallholder farmers (67% male and 33% female) have been trained in how to run their farm operations as a business. The topics covered include introduction to farming as a business, current farming practices, modern farming practices, assessing business risks, building a FaaB family model and record keeping. At least 2,100 additional farmers will be trained over the next two months. The FaaB participant workbook has been translated into Anofo, the local language commonly spoken in the Chereponi District in the Northern Region.

A total of 398 women were trained in *Numeracy Skills Development* during the reporting period. This training has targeted primarily female smallholders in remote areas, and to date, a total of 2,102 individuals, 98% (2,059 female) were women. The women are applying their numeracy skills in other areas as well, such as identifying their savings passbook and account numbers, recognizing numbers on the assigned seats when boarding buses,

identifying and transacting business in the new Ghanaian Cedi, and assisting their children in primary school to do arithmetic homework. The program has a target of training 3,000 smallholders (with 70-80% women's participation) in numeracy, to be completed before the end of June 2013.

5 ADVANCE VOLUNTEER PROGRAM

During the reporting period ADVANCE completed the final volunteer assignments for the program. Between October 2012 and March 2013, the project mobilized 14 volunteers to complete a total of 18 assignments (16 short-term and 2 long-term). The volunteers provided 341 days of technical assistance with local host organizations; working directly with over 1,200 beneficiaries (47% women). Volunteer assignments focused on four main topics: Business and Enterprise Development, Financial Services, Organizational Development and Farm Management, and Technology Transfer.

Business and Enterprise Development: Under this objective the assignments focused on human resource management and development as well as business management training to help strengthen the organizations. One processor and one finance house received assistance in human resource management and development while two input dealers received assistance in inventory management.

Financial Services: A long-term volunteer, Dustin Richards, assisted three rural banks in the Upper West Regions to develop a credit manual and templates for assessing the risk associated with agricultural lending. The volunteers trained 14 members of staff of these banks including credit officers, managers, and other bank staff on various methods of risk quantification and analyses.

Organizational Development and Farm Management: Volunteer assignments under this objective focused on record keeping, farm management training, and training on farming as a business. Volunteers guided farmers and agricultural business owners on how to develop and maintain basic business records and track production costs and income.

Technology Transfer: Ralph Stonerock, a poultry nutrition and management specialist, worked with Royal Golden EGG Enterprises Limited. The company noticed that the feed formulations used over the years have not yielded expected results and productivity had been low. The volunteer developed a feed formula for them and also educated the management of the enterprise on how to improve the sanitation of the poultry area to ensure optimum growth of the birds.

In total, ADVANCE has field 113 volunteers who completed 6,252 days of technical assistance. This exceeds the life of project targets of 80 volunteers and 5,983 days. In the same reporting period ACDI/VOCA mobilized an additional 21 volunteers in Ghana under the Farmer-to-Farmer (F2F) Leader Award and will complete at least 15 assignments in the next six months. Through the Leader Award ACDI/VOCA has the ability to continue supporting ADVANCE beneficiaries with volunteer technical support through September 2013.

6 CROSS CUTTING PROGRAM SERVICES

Cross-cutting programs including gender, grants, environment, and public relations provide support to all the technical sectors of the project.

6.1 ADVANCE GENDER PROGRAM

To increase the impact of the program on women, and female smallholder farmers in particular, ADVANCE continues to follow its gender mainstreaming strategy that stresses proactive inclusivity of women in all program activities. ADVANCE pays close attention to the needs of women farmer groups, women aggregators and women owned businesses and provides services that fit those needs. In the reporting period, ADVANCE focused on the following major areas to ensure gender equity in all activities.

6.1.1 Ensuring Gender Equity and Benefits from Project Assistance

The ADVANCE program ensures that gender issues continue to be an integral part of project implementation by supporting all technical teams to reach targeted women actors. The team focused on building the capacity of women processors and aggregators to better manage their finances and keep better records as a means of reducing the constraints they face with accessing credit. The project continued to train women in farmer-based organizations to enable them to participate in group activities effectively and also take up leadership positions. Community leaders and land owners were also sensitized to appreciate the important role women play in developing their communities when they have access to resources to address cultural and traditional constraints to accessing suitable land such as land size, fertility and proximity to the community.

During the current reporting period 8,653 (39%) women benefitted directly from the project out of 22,214 beneficiaries. Women featured prominently in FBOs with 2,836 (42%) being FBO members receiving project assistance out of 5,525, and 8,361 (97%) of these women received business development services. Also, women made up 6,254 (52%) of beneficiaries trained in Farming as a Business (FaaB) or other business skills out of the 11,969 beneficiaries.

6.1.2 Gross Margins and Yield of Women

Project management has ensured that women benefit as much, if not more, than their male counterparts and this is yielding results. From the analysis, women smallholder maize and rice farmers generally had higher gross margins than the men. The gross margins per hectare for women were US\$588 for maize; US\$641 for rice and US\$ 484 for soybean while that for the men was US\$487 for maize; US\$587 for rice and US\$557 for soybean.

The women had higher yields in all the three commodities. The yields for women were: maize 2.6mt/ha), rice 2.9mt/ha and soybean 1.3mt/ha while the yields/ha for men were 2.1 for maize, 2.5 for rice and 1.1 for soybean. The higher yields and gross margins recorded amongst women can be attributed mainly to rigorous capacity building and small equipment grant support which reduced some of the drudgery of smallholder farming in Ghana. Although the women had higher yields in soybean than the men, their gross margins were

lower because of higher production costs than men and sold at a slightly lower price as well. Reasons for this are not readily available and management will investigate the matter.

6.1.3 Women Access to Small Equipment Grants

ADVANCE provided 432 outgrowers (278 females and 154 males) with tarpaulins which are being used on their fields. This has resulted in the supply of good quality produce by outgrowers to NFs and subsequent supply to end markets. Under the small equipment grant program, ADVANCE supported 13 women of the Kukunansor Women Group in four communities with 13 donkey carts to ease transportation of produce from the farms and to markets and also served as an additional income generating venture. The women hire these carts out to members of their community to convey their wares from their farms to the house or from their homes to the nearest market centers.

There has also been widespread use of weighing scales by women through the equipment grants. Outgrowers in Funsu for instance called for its use else they were not going to sell to the NF because of the benefits they stood to gain.

6.1.4 Financial services targeted at women

ADVANCE is working with value chain actors to promote value chain finance targeting women. There continues to be strong evidence that repayment rates among women are higher than for men and nucleus farmers intentionally target women in expanding their outgrower membership. ADVANCE will strengthen women's access to financial services and will be proactive when considering gender on the DCA program.

During the reporting period, 112 women were assisted by ADVANCE to access US\$9,200 worth of agricultural and rural loans for their operations. In the Upper West Region, ADVANCE facilitated the linkage of four women groups at Bulenga with Wa Credit Union for a six-week training course on production credit. The training programme included credit management, group dynamics, savings, insurance, business management and marketing. Additionally, Wa Credit Union has disbursed loans to four groups of more than 55 female smallholder farmer members of NF Yahaya Iddrisu, worth US\$ 5,803, in Yaro community in the Wa East district for trading in grains and other businesses. ADVANCE also linked fifty five (55) women from Busa and Tangazugu in Wa East district to Sinapi Aba Trust to access financial support.

6.1.5 Celebration of International Women's Day

ADVANCE organized this year's International Women's Day celebration at Gindabuor, a community in the Sawla-Tuna-Kalba District in the Northern Region on March 8, 2013. The event showcased how women can improve their lives by adopting Farming as a Business (FaaB) and good agricultural practices that improve their productivity.

The celebration was sponsored by MTN, ANTIKA Enterprise and Premium Food Ltd. The companies provided items including three mobile phones, five Knapsack spraying machines, 41kg of maize hybrid seeds, T-shirts and ten bags of fertilizer worth a total of US\$620 as prizes for a cooking competition and for the three best female outgrowers linked to John Mulnye, the nucleus farmer who hosted the program. The gathering was addressed by the District Director of MoFA who was the guest speaker, the Chief of Gindabuor, an out grower

to John Mulnye, the Regional Coordinator of the ADVANCE Program in the Upper West Region, and the Mennonite Development Associate (MEDA) project coordinator. There was a drama display by selected outgrowers on the need to ensure equal access to inputs, mechanization services and training on FaaB because of the impact yields leading improved family livelihoods.



to

Women smallholders receive prizes during Women's day Celebration

Three female out growers who actively participated in establishing demonstration plots during the 2012 cropping season and subsequently adopted good practices doubling their yields from an average of 1.3 to 2.6mt were awarded mobile phones from MTN as prizes. The best three groups from the cooking competition using local food ingredients incorporating soybeans received farming inputs to establish a one-acre group demonstration farm in the coming season. The event was attended by over 300 farmers from Gindabuor and surrounding communities. Nyine Duku, one of the women who won a mobile phone remarked *"This award will motivate me to do more in the coming years and also encourage others to see farming as a business"*

6.2 ENVIRONMENTAL COMPLIANCE

The project addressed two thematic environmental management areas in this reporting period: (i) General compliance with title 22 of the code of federal regulations section 216(22CFR216) and (ii) 2. Improved adaptation and resilience to climate change

6.2.1 General Compliance with USAID Environmental Regulations

Safe use and handling of agrochemicals remains a major challenge in project implementation. Reuse of empty agrochemical containers and lack of attention to safeguards by applicators is a widespread practice among farmers. To address these issues, a mitigation and monitoring plan for the PERSUAP, which comprehensively addresses the major issues, was developed for implementation last year and remains relevant. The ADVANCE management team has ensured that all project activities have remained consistent with the Initial Environmental Evaluation (IEE) conditions for the period under review. Also, Environmental and Safety Plans (ESP) were developed for all enterprises that have received direct grant assistance for farm equipment to enhance safety and environmental safeguards.

The environmental performance indicators as stipulated in the IEE have been tracked over the life of the project and Table 6-1 summarizes the results as at the end of the reporting period.

Table 6-1 ADVANCE PERSUAP Implementation and monitoring

Issues	ADVANCE Action Needed	Progress till date
<p>Reduced Reliance on Pesticides To produce maize, rice and soybean, it is necessary to use agrochemicals to some extent to combat pests and diseases of these commodities and in land preparation.</p>	<p>The choice of pest control method and products available will start from the selection of appropriate planting material based on levels of resistance and tolerance to major pests. The program will therefore promote planting materials that have a high tolerance to pests with limited reliance on pesticides through collaborations with research institutions.</p>	<p>During the reporting period, the project trained rice farmers on the system for rice intensification (SRI) which involves production techniques that reduce water usage and chemical fertilisers. Farmers were also trained on timely harvesting to avoid field infestation and hence the need to treat grains with pesticides before storage.</p> <p>Prior to the reporting period, ADVANCE project management has collaborated with the crop research institute on the trials of new varieties of seeds that are yet to be released. In collaboration with major input dealers the program has also made available certified seeds to farmers for this planting season. The project has also introduced farmers to seed dressing this season. The program will continue its efforts in ensuring that farmers have access to improved certified seeds that are pest resistant to minimize pesticide reliance.</p>
<p>Access and utilization of Personal Protective Equipment Small holder farmers in the Northern sector so not view the use of personal protective equipment (PPEs) as essential. Farmers are aware of the potential hazards when spraying pesticides but usually chose not to wear protective clothing.</p>	<p>To address the issue of poor use of PPEs, field officers will recommend and promote the use of PPEs specifically designed for the hot weather conditions which is the main cause of poor use of PPEs. Additionally the program will work with local service providers to develop a services market for certified pesticide applicators to reduce the number of untrained persons exposed to pesticides</p>	<p>The project has set up spraying service providers who are trained. By providing services to smallholder farmers, the incidence of misapplication and improper clothing during spraying is reduced.</p> <p>Prior to this period, ADVANCE field officers have demonstrated the use of PPEs during all field days in collaboration with MOFA, EPA and major input dealers. Input dealers collaborating with the ADVANCE program have promoted PPEs for purchase by small holder farmers. In the period, 21 spray service providers were trained in pesticide handling safeguards and spray service provisioning in the Upper East region. They have provided services to 285 small holder farmers this cropping season</p>
<p>Avoiding Re-use of Pesticide Containers Small holder farming communities generally re-use pesticide containers for the storage of food items and do not believe any harm can come to them if they are clean.</p>	<p>ADVANCE field officers will make recommendations for the destruction and burial of used containers on the farm and avoid bringing them back to the homestead to prevent the temptation of re-use. ADVANCE will also maintain regular programs of public awareness, education and training programs for small holder farmers</p>	<p>ADVANCE field officers demonstrated the methods of disposal of used pesticide containers during 15 field days and training sessions last year. Small holder farmers have also been advised by MOFA extension agents on the importance of destruction and burial of the used containers. During the reporting period, the project continued to educate farmers on proper disposal of pesticide containers.</p>

Issues	ADVANCE Action Needed	Progress till date
Pre-harvest and Storage chemical interval violations The risk of high levels of pesticide residue in harvested produce has been identified throughout the operational areas	ADVANCE outreach team will maintain regular public awareness programs on the effects of violations of pre-harvest and storage chemical residues. Pesticide training programs will also cover handling practices that reduce unacceptably high levels of residue.	The ADVANCE outreach team continues to maintain awareness through the electronic and print media on the hazards of violating pre-harvest storage chemical residues. The project will develop a checklist for storage of cereals for warehouses which will be made available in the harvesting period.
Unsafe Storage, transport and handling Poor storage, transport and handling of agrochemicals can pose high risk to those directly handling the chemical and other passers-by.	The program will support the training of input retailers and small holder farmers on precautionary measure when transporting, storing and handling agrochemicals	Eighty three (83) input retailers have been trained on storage, transportation and handling of agrochemicals and the project has continued to monitor how the knowledge is being applied. Also, environmental, health and safety procedures have been developed for two agro-input retailers, Antika and 18 th April who continue to abide by them.
Applications by Women and Children Minors that support parents on the farm are often saddled with the task of pesticide application, Women sometimes also apply pesticides, oblivious of the health implications to them and even children yet unborn	ADVANCE will develop outreach programs that promote the elimination of women and children in pesticide application programs while encouraging their involvement in other aspects of the farm that do not deal with pesticides.	There has not been any instance where women and children have been allowed to apply agrochemicals. However, to forestall any such situation occurring, the project has introduced the concept of spraying gangs to provide professional spraying services.
Potential for using pesticides more than Necessary Farmers normally apply agrochemicals by calendar without actually encountering the threat of a pest invasion leading sometimes to avoidable high cost of agrochemicals and over application of pesticides.	Through training programs, farmers will be encouraged to practice good agronomic practices to avoid the over utilization of pesticides. A cost benefit analysis tool will be used to discourage over-utilization and IPM methods will be encouraged.	Good agronomic practices (GAPS) have been the major topic for ADVANCE demonstration plots. With the support of a volunteer consultant, small holder farmers were also introduced to pest scouting prior to pesticide application to avoid over application of pesticides. Also the introduction of the SRI technology for rice production is part of the strategy to reduce the reliance on synthetic pesticides.
Use of lower-toxicity products The study revealed farmers inclination towards pesticides recommended by other users and retailers without necessarily considering toxicity levels	ADVANCE will implement awareness campaigns targeted at small holder farmers and retailers to use agrochemicals in toxicity class III whenever possible and toxicity class II will be used under very strict safety measures.	The program has continued to use the PERSUAP recommended agrochemicals as a guide for farmers to choose the least toxic products available on the market. All ADVANCE demonstration plots used the PERSUAP recommended agrochemicals.
Avoid contamination	Through outreach and	This activity has been incorporated in the

Issues	ADVANCE Action Needed	Progress till date
of water resources Small holder farmers tend to have farms close to the homestead and water resources that most often serve as their drinking source as well as that of livestock	awareness programs, farmers will be encouraged to avoid spraying around the home and water bodies.	15minute farmers digest supported by the ADVANCE program on 14 radio stations across the three Northern regions. The reporting period coincides with the off-production season and posed little danger water bodies.
Safer Use of Pesticides	Paramount in the routine actions of ADVANCE will be the establishment of a monitoring program for safe and effective use of pesticides.	The program continues to demonstrate safe and effective use of agrochemicals during all field days and on-going training programs.

6.2.3 Improved adaptation and resilience to climate change

Weather index crop insurance is a package designed to help farmers avoid total crop failure during adverse weather conditions such as drought. Eleven soybean farmers from Tibali in the Savelugu Nanton District of the Northern Region who purchased a Crop Insurance Policy during the 2012 farming season received payout as a result of a trigger experienced within the 20km radius as recorded by the weather station at Kpong Tamale. To improve access to the products during the 2013 season, a training session was organized by Ghana Agricultural Insurance Pool (GAIP) to sensitize nucleus farmers on the importance of and reasons why they and their out-growers need to purchase the product. Five nucleus farmers were in attendance.

6.3 GRANTS PROGRAM

During the early part of this reporting period, management started winding down on the grants program with a limited number of awards aimed at consolidating gains made through earlier interventions in the three targeted value chains. These were grants made to assist beneficiaries to increase production, improve post-harvest practices and storage facilities, and to introduce uniform standards in the quality of produce during trading.

Support was also extended to the Ghana Rice Inter-professional body (GRIB) and the Ghana Grains Council (GGC), both major stakeholders in the grain industry, to strengthen their institutional capacity.

During the reporting period, 15 new grants were awarded to various organizations, bringing the total number of signed agreements to date to 93, with a total obligated amount of \$2,728,244.75 and \$2,581,869.75 disbursed. Project management will continue to monitor the use and impact on the production, harvesting and processing equipment provided to farmers for the various commodities, and document relevant experiences for the future.

Achievements to date

- US\$2,728,244.75 obligated
- \$2,581,869.75 disbursed
- 2,908 direct beneficiaries
 - 99 FBOs
 - 12 NGOs
 - 16 firms
 - 5 Processors
 - 12 Aggregators
 - 29 Nucleus farmers

Table 6-2: Completed and on-going activities during the period

Grant Beneficiary	Nature of Grant	Grant Purpose	Total Value / Budget USD
CERSGIS	Provision of software and hardware for GIS activities	To support CERSGIS to become a repository of reliable and convenient geospatial data in the agricultural sector and to ensure sustainability in making available such data and the application of GIS in agri-business.	32,500
Various Beneficiaries	Procurement of 10 MF Tractors	To enhance competitiveness of selected agricultural value chains in Ghana and integrate smallholder, commercially-oriented farmers into these value chains to improve productivity and supply of products to support market demands of agricultural produce	266,000
Gundaa Warehouse	Support for additional cost of construction of warehouse and provision of basic equipment for operational activities	Create through a warehouse receipt system an operating environment that has uniform standards and grades that are accepted by buyers, transparent and reliable price discovery, and warehousing services that are consistently of high quality to insure against major losses and maintain defined quality.	42,057
Ghana Grains Council (GGC)	Provision of operational grant to cover administrative and operational activities	To support the Ghana Grains Council as a private sector-led initiative to promote the warehouse receipt program as a way to develop the grains industry in Ghana.	147,367
Various Warehouses	Provision of 11 moisture meters	To improve both quality and standardization in maize, rice and soy value chains	5,445
Ghana Rice Inter-professional Body (GRIB)	Provision of basic office equipment to support the operations of GRIB	Assist GRIB to upgrade their capacity to increase efficiency, improve quality, increase output and raise/improve standards for the rice market.	3,426

6.4 PUBLIC RELATIONS AND COMMUNICATION

Through the Public Relations and Communications Unit, the project promoted and highlighted the activities, progress, impact and successes of ADVANCE and USAID's contribution to agricultural development in Ghana, and especially the Feed the Future (FTF) initiative, during the reporting period. This was achieved by documenting and sharing various success stories, weekly bullets, publishing the project's quarterly newsletter, and publicizing project events.

6.4.1 Weekly Feed the Future Bullets

A total of 61 weekly bullets were submitted to USAID during the reporting period. The bullets highlighted various field activities: transfer of knowledge through demonstrations and field days, farmers' access to inputs and equipment, farmers' access to credit, smallholder farmers increasing their yields and income, value chain actors' forums, issuing of regulated warehouse receipts and opening of community warehouses.

6.4.2 Quarterly Newsletter

Two editions of the project's "Quarterly Newsletter" were developed and distributed to more than 1,000 recipients including partners, clients and actors involved in the project, in both electronic and printed form.

6.4.3 Photo Contest

The project participated in the 2012 Annual Photo Contest organized by ACDI/VOCA. Two of the project's photos submitted for the contest were among 134 photos submitted from other ACDI/VOCA projects worldwide. One of the photos won the 5th runner up position and the other received an 'honorable mention'.



5th runner up category: Photo credit: Sahanoon Alhassan



Honorable mention category: Photo credit: Emmanuel Gyarteng

6.4.4 Contribution to USAID/FTF, ACDI/VOCA and other publications

USAID published five of the project's weekly bullets in its February and March 2013 editions of "E-Wire Telling our Story." "E-Wire" is a monthly newswire created by USAID to showcase the successes made by the Mission's implementing partners regarding USAID work and sent via email to a wide audience in Ghana. (Visit www.usaid.gov/gh)

The February edition featured "*The Distribution of Parboiling Vessels to Farmers in Northern Ghana*" and "*The Issue of First Regulated Warehouse Receipt*." The bullets for the March edition were "*Inauguration of 13 Listenership Clubs*"; "*Access to Credit by a Maize Aggregator*" and "*Nucleus Farmer Rewards Smallholder Farmers for Upholding Quality Standards in their Farming Activities*."

Also, ACDI/VOCA published, on its website, three stories on the project's impact in the field: These were:

- "Innovative Technologies in Northern Ghana Increase Yields."
- "Issue of First Regulated Warehouse Receipt in Ghana."

- “In Northern Ghana, a Paradigm Shift in Women’s Roles – For Smallholder Women’s Group, Business Skills Increase Status.”

These can be accessed at <http://www.acdivoca.org/acdivoca/PortalHub.nsf/id/news-Innovative-Technologies-Ghana-Increase-Yields>

A weekly newspaper for agribusiness published by The Miller Publishing Company, Bloomington – “Feedstuffs” – published the “*Issue of the First Regulated Warehouse Receipt*” story in its January 28, 2013 edition with the headline “*Stepping up ag systems in Africa.*”

Other media sources that published stories on ADVANCE include:

- <http://ghananewsagency.org/science/ten-farmer-based-groups-in-northern-region-receive-agricultural-boost-55031>
- <http://www.ghanabusinessnews.com/2013/03/14/small-holder-farmers-asked-to-perceive-farming-as-business-venture/>
- <http://ghananewsagency.org/science/six-communities-in-tamale-to-benefit-from-a-500-metric-tons-warehouse-57572>
- <http://www.ghana.gov.gh/index.php/news/regional-news/northern/20587-six-communities-in-tamale-to-benefit-from-a-500-metric-tons-warehouse->

6.4.5 Features on Project Actors

The Finder and Ghanaian Observer (private newspapers) carried feature articles on two of the project’s actors.

- The Finder in its November 7, 2012 edition captioned “*ADVANCE – Pillar of agribusiness in N/R,*” featured a success story of Issah Abukari, a rice farmer in the Kumbungu District of the Northern Region who won the Best Rice Farmer award at 2012 Farmers’ Day Celebrations.
- On November 30, 2012, the Ghanaian Observer carried a feature on Memunatu Alhassan from the Lolandi Processing group on “*Local Rice now Gaining Patronage due to Improved Quality Processing.*”

7 MONITORING AND EVALUATION

Monitoring and evaluation activities during the reporting period included: data collection on all project indicators, particularly for determining gross margins (GM), support for the USAID commissioned assessment of the ADVANCE program, revision of data quality strategy, analysis of indicator tracking tools, design of weekly data collection tracking tool, development of a database reporting interface, and internal and external data verification exercise. These activities have further strengthened the monitoring and evaluation (M&E) system and improved data quality for reporting.

7.1 Data Collection, Analysis and Reporting

During the reporting period project management reviewed the systems for data collection, storage and retrieval as well as quality assurance standards. The data collection instruments were revised to incorporate data quality checks and also ensure that appropriate updates, especially the required FTF indicator data elements are adequately and properly captured. Also, a weekly data collection tracking tool was designed and operationalized to further enhance timeliness of data submission from the field. Also, Specific Standard Operating Procedures (SOPs) for data collection, documentation, processing and management, was also designed and is being implemented to further enhance the integrity of the data for reporting and decision making.

Project staff continued to collect data regularly on all required indicators. For gross margins a survey was conducted to collect the necessary data from over 1,000 smallholders who were randomly selected from the M&E database of project beneficiaries.

7.2 Gross Margin (GM) Determination

The calculation of Gross Margins (GM) requires data elements including cost of production, farm sizes, volume of produce, and value of sales. A Stratified Random Sampling technique was used to select 1,091 smallholder project beneficiaries (farmers with farm size less than 2 Ha) from the total project beneficiaries in the M&E database. The study population was divided into three (3) based on the project commodities (maize, rice and soybean farmers) after which a simple random sample technique was applied to select the respective study samples for each commodity. The selected samples for each commodity were proportionally stratified based on sex (male and female).

7.2.1 Determining the Sample Size for Gross Margin data collection

For determining gross margins (GM), the sample size was calculated using the electronic sample size calculator from www.raosoft.com with at least 95% confidence level (5% margin of error) to meet USAID standards. After the determination of the sample size, 10% of the calculated sample size was added to compensate for non-response (i.e. respondents that may not be available at the time of data collection). The study sample size was 1,091 randomly selected beneficiaries.

7.2.2 Data Collection

ADVANCE designed, pretested and standardized a data collection instrument which was used to collect the data for gross margin (GM) analysis. The instrument was used to collect data on production cost, quantity of produce and value of sales. The production area was determined using a GPS handheld device to map all the sampled farms. The data was collected through structured interviews with the sampled producers and where necessary, from key informants (nucleus farmers, aggregators, input dealers).

The data collectors were trained ADVANCE Business Facilitators (BFs), students from the University for Development Studies and staff of the MoFA. The data collection process was supervised by the Regional Monitoring and Evaluation Officers and coordinated by the Monitoring and Evaluation Manager.

7.3 Management Information System (MIS) and M&E Database Upgrade

ADVANCE has upgraded its Management Information System (MIS) to allow for direct reporting on the performance indicators from the database through the development of a software for data analysis and report generation and will be completed by end of April, 2013. Both static report functionality as described by the ADVANCE indicators specified in the Performance Monitoring Plan (PMP) and dynamic report functionality as determined by ADVANCE management are included in the design.

7.4 Data Verification

An external data verification exercise was conducted by the Monitoring and Evaluation Technical Support Services (METSS), which focused on the Feed the Future (FTF) indicators reported in the PY 2012 annual report. METSS is preparing their report on the verification exercise and any resulting recommendations will be thoroughly evaluated and implemented appropriately.

7.5 Assessment of the ADVANCE Program

USAID commissioned an assessment of the ADVANCE program during the reporting period. The assessment team was made up of Dr Jeff Dorsey, President of Agriculture, Business Credit and Development LLC-USA; Mr Matthew Armah, Chief Operating Officer of Millennium Development Authority (MiDA)-Ghana and Dr. Obeng Mensah, a lecturer at the University of Cape Coast. The objective of the assessment was to provide evidence based information that will impact the design of future USAID agricultural programs.

The assessment team was accompanied in their 9-day fieldwork by the Deputy Chief of Party and the M&E Manager of the ADVANCE Program. The team visited all the four ADVANCE operational regions (i.e. Brong Ahafo, Northern, Upper East and Upper West regions) and held Focus Group Discussions (FGDs), in-depth interviews (IDIs) and Key Informants Interviews (KIIs) with ADVANCE beneficiaries, collaborators and other development partners and businesses: The World Food Program (WFP), Ministry of Food and Agriculture (MOFA), Mennonite Economic Development Associates (MEDA), Savannah Accelerated Development Authority (SADA), Ecobank, Wa Credit Union, Sinapi Aba Trust, Yapra Rural Bank, Kintampo Rural Bank, Radio Upper West, Irrigation Company of Upper Regions (ICOUR), Tractor Service Operators (SATO), etc.

The team also visited and held key informant interviews (KIIs) with end-markets of ADVANCE beneficiaries such as Premium Foods Limited, Royal Golden Eggs, Vester Oil Mills Limited and Royal Danamec which are located in the southern part of Ghana but serve as end-markets for producers in the north. The assessment team is working on their report for submission to USAID.

7.6 Staff Capacity Development in Monitoring and Evaluation

As part of efforts to strengthen the monitoring and evaluation system, the project developed a state of the art Structural Query Language (SQL) Server 2008 R 2 Cloud database for programming and automatic generation of indicator reports and remote data entry. A four day intensive training workshop was held to train the Regional Coordinators, the Regional Monitoring and Evaluation Officers, the Technical Leads, the Monitoring and Evaluation Manager and the Deputy Chief of Party.

The Deputy Chief of Party and the Monitoring and Evaluation Manager also participated in a two day workshop organized by Monitoring and Evaluation Technical Support Services (METSS) for all USAID/Ghana Economic Growth (EG) office Implementing Partners. The workshop aimed to build the capacity of Implementing Partners and strengthen and harmonize the M&E systems to improve data quality.

7.7 Mapping of Sampled Farms for Gross Margin Analysis

The project surveyed and mapped 1,044 farms belonging to smallholder farmers in the three Northern Regions and Brong Ahafo, during the period under review. The data will be used to assess the productivity and competitiveness of nucleus farmers and their out growers and to report on yields and gross margins per hectare of the three commodities during the last cropping season. Figure 7-1 shows the spatial distribution of the farms that were mapped.

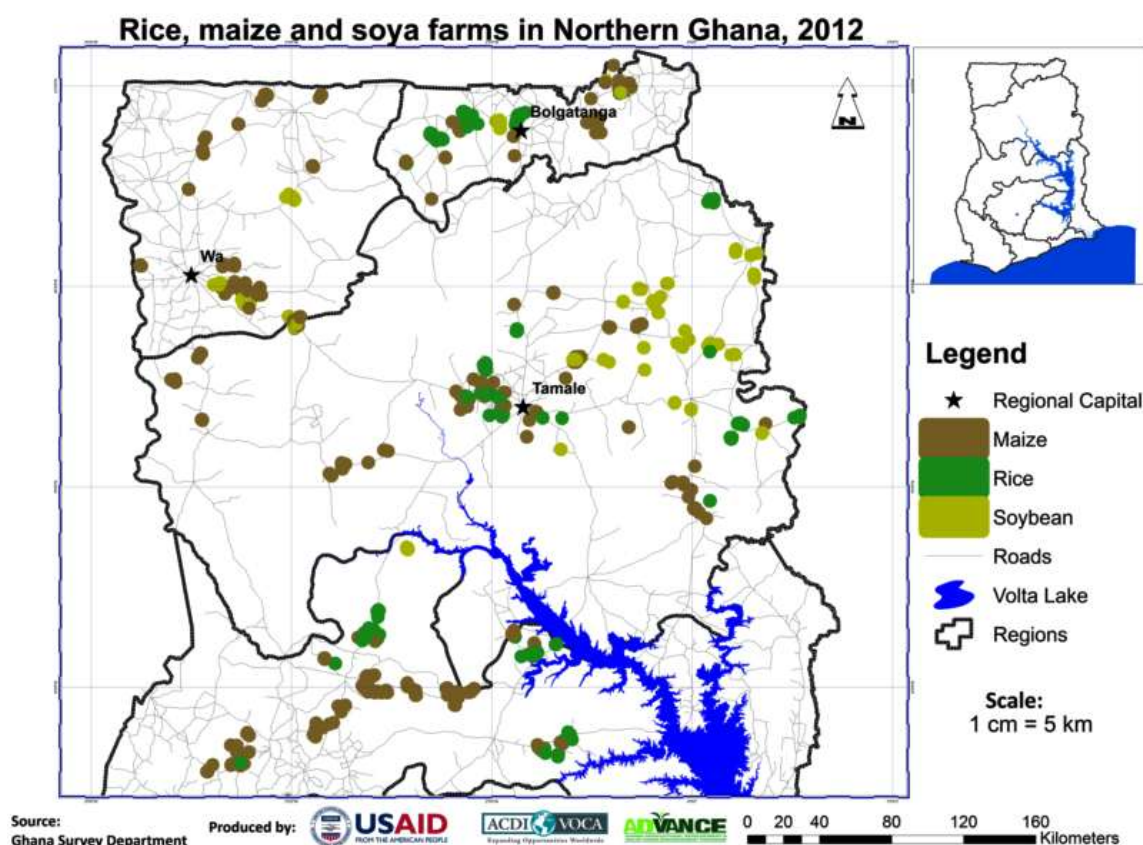


Figure 7-1: Rice, Maize and Soybean Farms Mapped In Northern Ghana In 2012

7.7.1 GIS database for mechanized service providers

In pursuance of the project's goal to develop a complete database of mechanized service providers across the three Northern Regions, 49 Agriculture Extension Agents (AEAs) from the Ministry of Food and Agriculture in the Northern Region were trained in the basic techniques of using GPS for data collection. So far 858 tractors have been mapped in five districts of the Northern Region. The exercise is on-going in the remaining 18 districts of the Northern Region and will be completed by the end of April 2013. The data being collected includes: the owner of the tractor, district, community, make/ model, horse power, the working condition of the tractor and source of acquisition, i.e., with the assistance of a donor/project or self-financed. This information will be useful for tractor dealers to assess the economic viability of establishing service centers in specific locations and for farmers to identify mechanized service providers within their communities whose services they can use.

7.7.2 GIS support for the volunteers program impact assessment

During the period under review, five (5) staff members of the volunteer program were trained in GPS mapping to enable them apply the techniques in on-going impact assessments. At the end of the exercise a map showing the location of all beneficiaries/host of the volunteer program will be produced.

ANNEXES

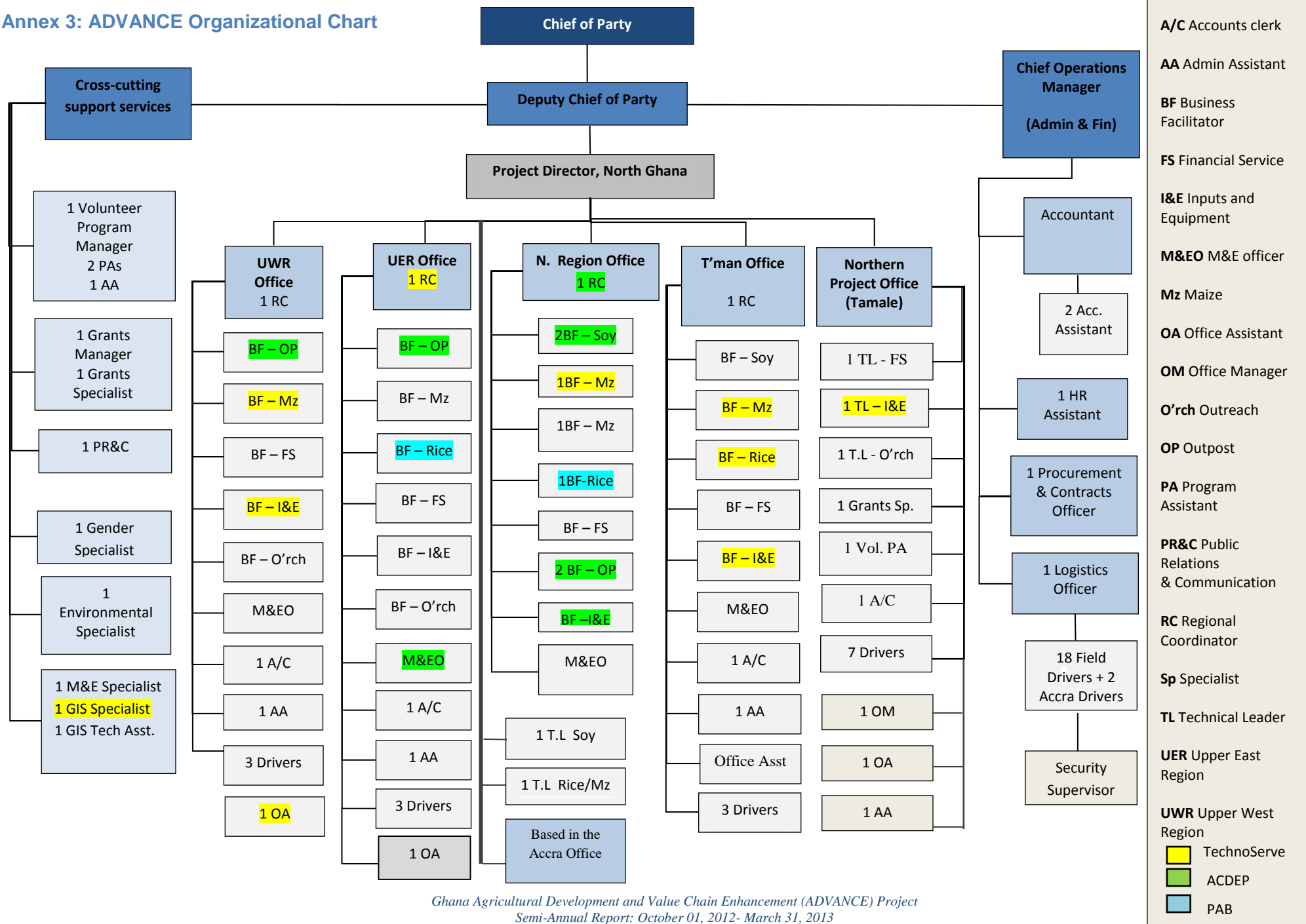
Annex 1: ADVANCE operational districts and commodities

Region	District	Commodity
Northern	Tamale Metropolitan	Maize, rice
	East Mamprusi	Maize and soybean
	Gusheigu	Maize, Soybean, Rice
	West Gonja	Maize
	Nanumba North	Maize/Soybean/Rice
	Nanumba South	Maize
	Savelugu/Nanton	Maize
	Central Gonja	Maize, Soybean
	Tolon Kumbungu	Maize, Rice
	East Gonja	Maize, Soybean, Rice
	Yendi	Maize, Soybean, Rice
	Karaga	Maize, Rice And Soybean
	Zabzugu/ Tatale	Rice, Soybean
	Chereponi	Soybean
	Saboba	Soybean
	West Mamprusi	Soybean/maize
	Bunkpurugu Yunnyo	Maize and Soy
Upper East	Builsa	Rice and Soy
	Kassena Nankana	Rice
	Sawla/Tulna/Kalba	Maize
	Bongo	Soy
	Bolgatanga	Rice, maize and Soy
	Bawku West	Maize and Soy
	Garu - Tempene	Maize and Soy
	Bawku Municipal	Maize and Soy
	Talensi - Nabdan	Maize
Upper West	Wa West	Maize/Soya
	Wa East	Maize/Soya
	Wa Municipal	Maize/Soya
	Jirapa	Maize
	Sissala East	Maize/Soya
	Sissala West	Maize/Soya
	Sawla-Tuna-Kalba	Maize and Soybean
	Nadowli	Maize/Soya
Brong Ahafo	Kintampo North	Maize/Rice
	Kintampo South	Maize
	Pru	Maize/Rice
	Sene	Maize//Rice
	Tain	Maize

Annex 2: ADVANCE staffing

Staff Category	Number
Technical Staff:	
<ul style="list-style-type: none"> • COP • DCOP • Project Director(PD) 	
Technical Leads and Regional Coordinators	9
M&E Manager and M&E Officers	5
Business Facilitators(BFs)	26
Program Services(Gender, Environment, Grants, PR&C)	11
Support Staff	
Accounts	5
Administration & Logistics	12
Drivers	18
Security	4

Annex 3: ADVANCE Organizational Chart



Annex 4: Maize Sales Tracked For 26 Supply Chains

	End market	NF/ Aggregators	Volume	Value		
			Supplied (Mt)	Unit Price cedis / MT	¢	\$ = ¢1.89
1	Agbobloshie market	Umar Abdul Latif	15.1	-		-
2	Agricare	Dora Yeboah				
		Grace Manu				
3	Akate Farms	Dora Yeboah	154.7	464.67	71,885.00	\$38,034.39
		Grace Manu				
		KwadwoFosu	58	413.79	24,000.00	\$12,698.41
		Margaret Darko	140.5	352.31	49,500.00	\$26,190.48
4	Antika	Abdulai Ojam	78.4	401.8	31,501.12	\$16,667.26
5	Auntie Ama	Ibrahim Tanko	468	447.12	209,250	\$110,714.29
6	GFDC	KwadwoMatu	284	411.53	116,875.00	\$61,838.62
7	InterGrow	Big Ajar	39	628.72	24,520.00	\$12,973.54
		Yahaya Iddrisu				
8	Jokas Farms	Grace Manu				
9	K. Baah Farms	Peter Okrah	263.85	552.04	145,656.00	\$77,066.67
10	Kusagu Senior High	Martin Arikui	2.5	1,100.00	2,750.00	\$1,455.03
11	Kusanaaba Sec Sch,	Alhajji Mbilla Asaki	15	-		-
12	Navrongo Sec Sch	Maxwell Akandem				
13	Obuasi Poultry farmers	Moshood Dori	20	600	12,000.00	\$6,349.21
14	Open market	Abu Nabong	62	500	31,000.00	\$16,402.12
		Malik Nabie	106.08	476.53	50,550.00	\$26,746.03
15	Poultry Farmers Kumasi	Mamuda Buntie	15	460	6,900.00	\$3,650.79
16	Premium Foods	Gundaa Produce Company	652	-		-
		Chief Moses Abaare	37.7	-		-
		Saaka Awuro	136.17	490.2	66,750.00	\$35,317.46
		Agnes Fokuoh	137.62	464.29	63,895.00	\$33,806.88
		Felix Baazing	36.47	548.94	20,020.00	\$10,592.59
		Frank Tetteh	165.14	245.1	40,475.00	\$21,415.34
		Grace Manu	133.7	404.63	54,099.00	\$28,623.81
		Iddrisu MacAdams	21.46	491.61	10,550.00	\$5,582.01
		Imoro Salia	25.36	498.82	12,650.00	\$6,693.12
		John Mulninye				

	End market	NF/ Aggregators	Volume	Value		
			Supplied (Mt)	Unit Price cedis / MT	¢	\$ = ¢1.89
		KwadwoMatu				
		Malik Nabie				
		Yahaya Iddrisu				
17	Royal Golden Eggs	Peter Okrah				
18	Sahel Grains	Dora Yeboah				
		KwadwoMatu				
19	Sandema Sec Sch	Maxwell Akandem	65	-		-
20	SFMC	Issahaku Issah	16.67	478.34	7,974.00	\$4,219.05
21		John Mulninye	17.14	490.08	8,400.00	\$4,444.44
22		Sissala FBO	192.4	675.68	130,000.00	\$68,783.07
23		Tahiru Meke	61.2	490.2	30,000.00	\$15,873.02
24	Takoradi Forces	Ibrahim Tanko				
25	Yedent	Yahaya Iddrisu	112.2	646.17	72,500.00	\$38,359.79
26	Zebilla Sec Sch,	Alhajji Mbilla Asaki				
			3,532.36		1,293,700.12	\$1,190,405